CR-185X

Ref. No. 3604

ONKYO® SERVICE MANUAL

COMPACT DISC RECEIVER
MODEL CR-185X

Silver model

UP/UPT	230V AC, 50Hz
UDT	120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
AUDIO COMPONENTS

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SPECIFICATIONS

AMP SECTION

Power Output:	2 x 20 watts at 4 ohms 1 kHz DIN 2 x 17 watts at 6 ohms 1 kHz DIN 2 x 15 watts at 8 ohms 1 kHz DIN 2 x 15 watts min, RMS at 8 ohms 1 kHz no more than 0.2 % THD
Dynamic Power:	2 x 24 watts at 4 ohms 2 x 18 watts at 8 ohms
Total Harmonic Distortion:	0.2 % at rated power
IM Distortion:	0.2 % at rated power
Damping Factor:	40 at 8 ohms
Sensitivity and Impedance:	TAPE / MD PLAY : 150 mV, 50 kohms LINE IN : 150 mV, 50 kohms
Frequency Response:	10 to 50,000 Hz : +0 / –3dB
Tone Control:	Super BASS : + 9.5 dB at 55 Hz BASS : ± 10 dB at 100 Hz TREBLE : ± 10 dB at 10,000 Hz
Single–to–Noise Ratio:	TAPE : 100 dB (IHF A)
Muting	–∞ dB

General

Power Supply:	AC 230 V, 50 Hz AC 120 V, 60 Hz
Power Consumption:	55 W
Dimensions:	185 W x 131 H x 331 D mm (7-5/16" x 5-3/16" x 13-1/16")
Weight:	4.2 kg (9.3 lbs)

Specifications and features are subject to change without notice.

FM Tuner section

Tuning Range:	87.50 to 108,00 MHz (50 kHz steps)
Usable Sensitivity:	Mono 12.8 dBf, 1.2 µV (75 ohms IHF) 1.0 µV (75 ohms DIN) Stereo 18.0 dBf, 2.2 µV (75 ohms IHF) 25.0 µV (75 ohms DIN)
50 dB Quieting Sensivity:	Mono 18.8 dBf, 2.4 µV (75 ohms) Stereo 38.8 dBf, 24.0 µV (75 ohms)
Capture Ratio:	2.0 dB
Image Rejection Ratio:	85 dB
IF Rejection Ratio:	90 dB
Signal–to–Noise Ratio:	Mono 73 dB, IHF Stereo 67 dB, IHF
Selectivity:	50 dB DIN (+ / – 300 kHz at 40 kHz devi.)
Harmonic Distortion:	Mono 1.0 % Stereo 1.5 %
Frequency Response:	30 to 15,000 Hz (+ / – 1.5 dB)
Stereo Separation:	35 dB at 1.000 Hz 25 dB at 100 to 10,000 Hz
Stereo Threshold:	FM : 17.2 dBf, 2.0 µV (75 ohms)

CD SECTION

Signal Readout System:	Optical non–contact
Reading Rotation:	About 500 – 200 r.p.m. (constant linear velocity)
Linear Velocity:	1.2 – 1.4 m / s
Error Correction System:	Cross Interleave Read Solomon code
D / A Converter:	1 bit
Digital Filter:	352.8 kHz 8 times over sampling
Number of Channels:	2 (stereo)
Frequency Response:	5 Hz – 20 kHz

CAUTION ON REPLACEMENT OF OPTICAL PICKUP

The laser diode in the optical pickup block is so sensitive to static electricity,surge current and etc, that the components are liable to be broken down or its reliability remarkably deteriorated.

During repair,carefulley take the following precautions. (The following precautions are included in the service parts.)

PRECAUTIONS

1.Ground for the work-desk.
Place a conductive sheet such as a sheet of copper (with inpedance lower than 10MΩ) on the work-desk and place the set on the conductive sheet so that the chassis.

2.Grounding for the test equipment and tools.
Test equipments and toolings should be grounded in order that their ground level is the same the ground of the power source.

3.Grounding for the human body.
Be sure to put on a wrist-strap for grounding whose other end is grounded.
Be particularly careful when the workers wear synthetic fiber clothes, or air is dry.

4.Select a soldering iron that permits no leakage and have the tip of the iron well-grounded.

5.Do not check the laser diode terminals with the probe of a circuit tester or oscilloscope.

PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMMISION, BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.

Laser Diode Properties

- Material: GaAlAs
- Wavelength: 760～800 nm
- Emission Duration: continuous
- Laser output: max. 0.5mW*

*This output is the value measured at a distance about 1.8mm from the objective lens surface on the Optical Pick-up Block.

LASER WARNING LABELS

The label shown below are affixed.

1. Warning lable

This label is located on the chassis.

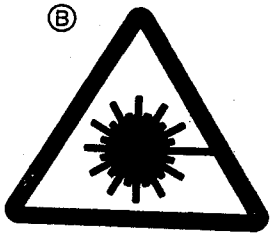
Ⓐ

DANGER —INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCK FAILED OR DEFEATED. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION —HAZARDOUS LASER AND ELECTROMAGNETIC RADIATION WHEN OPEN AND INTERLOCK DEFEATED.

ATTENTION —RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L ECLENCHEMENT DE SECURITE ANNULE.

Ⓑ



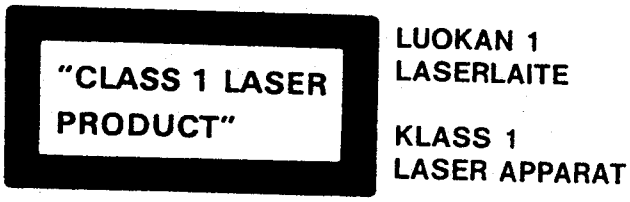
Ⓒ

VARNING
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSAF-BRYDER ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.
ADVARSEL
USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.

Ⓐ : Danger label
Ⓒ : Only 230V model

2. Class 1 label

This label is located on the left side of top cover.



ADVARSEL

Denna maekning er anbragt på apparatets højre side og indikerer, at apparatet arbejder med laserstråler af klasse 1, hvilket betyder, at der anvendes laserstråler af svageste klasse, og at man ikke på apparatets yderside kan blive udsat for utilladelig kraftig stråling.

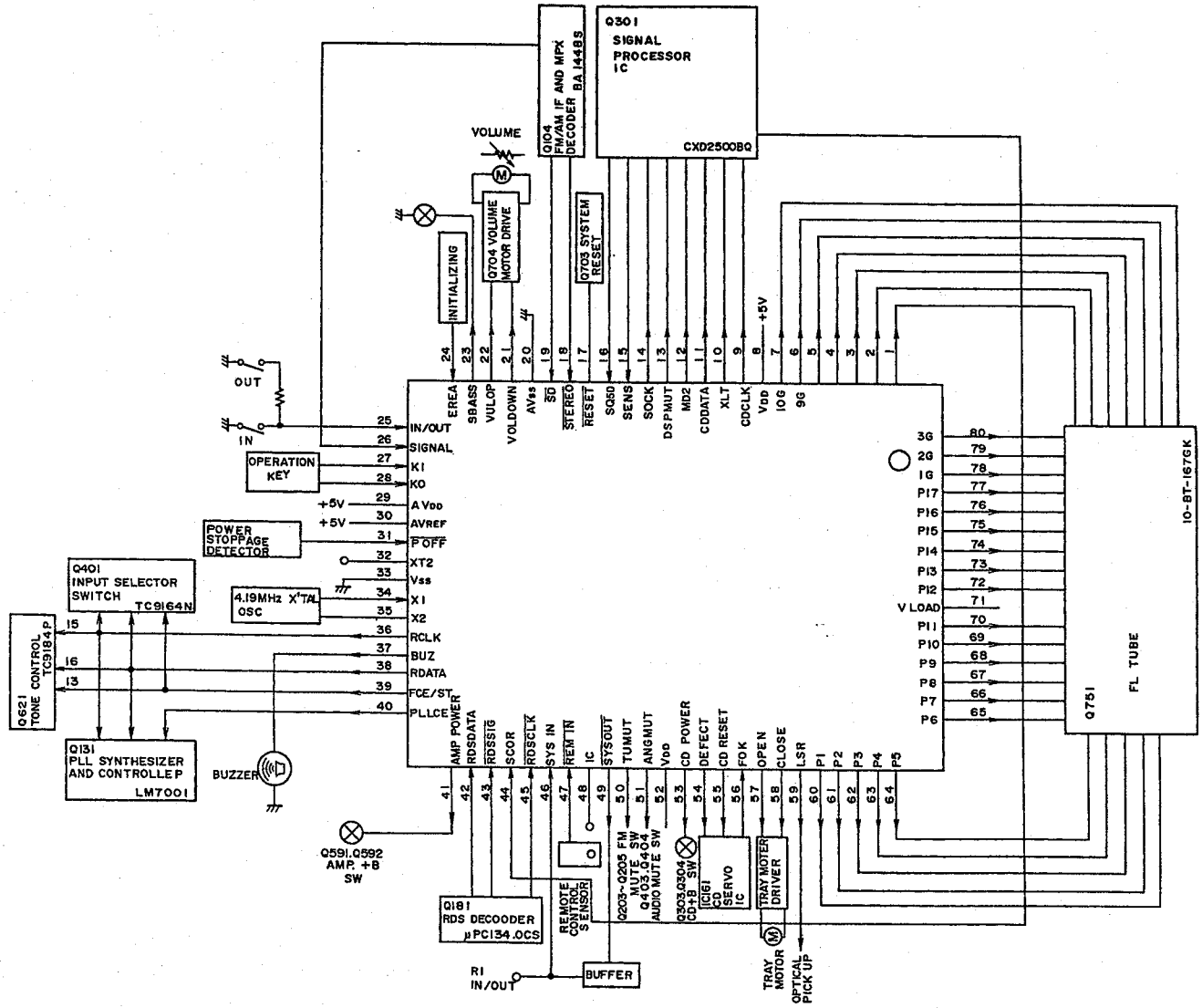
APPARATET BØ/R KUN ÅBNES AF FAGFOLK MED SÆRLIGT KENDSKAB TIL APPARATER MED LASERSTRÅLERI

Indvendigt i apparatet er anbragt den her gengivne advarselsmærkning, som advarer imod at foretage sådnne indgreb i apparatet, at man kan komme til at udsaette sig for laserstråling.

VAROITUS! LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSA KÄYTTÖOHJEESSA MAINTULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

MICROPROCESSOR CONNECTION DIAGRAM

μPD78045FGF-073



Operation	VOLUP output	VOLDOWN output
Stop	H	H
VOL UP	H	L
VOL DOWN	L	H

Table 1

BAND1	BAND0	Region	Frequency range	Channel space
0	0	Japan	76~90MHz	100kHz
0	1	Europe	87.50~108MHz	50kHz
1	0	Worldwide	87.50~108MHz	50kHz
1	1	U.S.A	87.9~107.9MHz	200kHz

Table 2

AM10k	Region	Frequency range	Channel space
0	Japan	522~1629kHz	9kHz
0	Europe	522~1629kHz	9kHz
0	Worldwide	531~1602kHz	9kHz
1	U.S.A	530~1710kHz	10kHz

Table 3

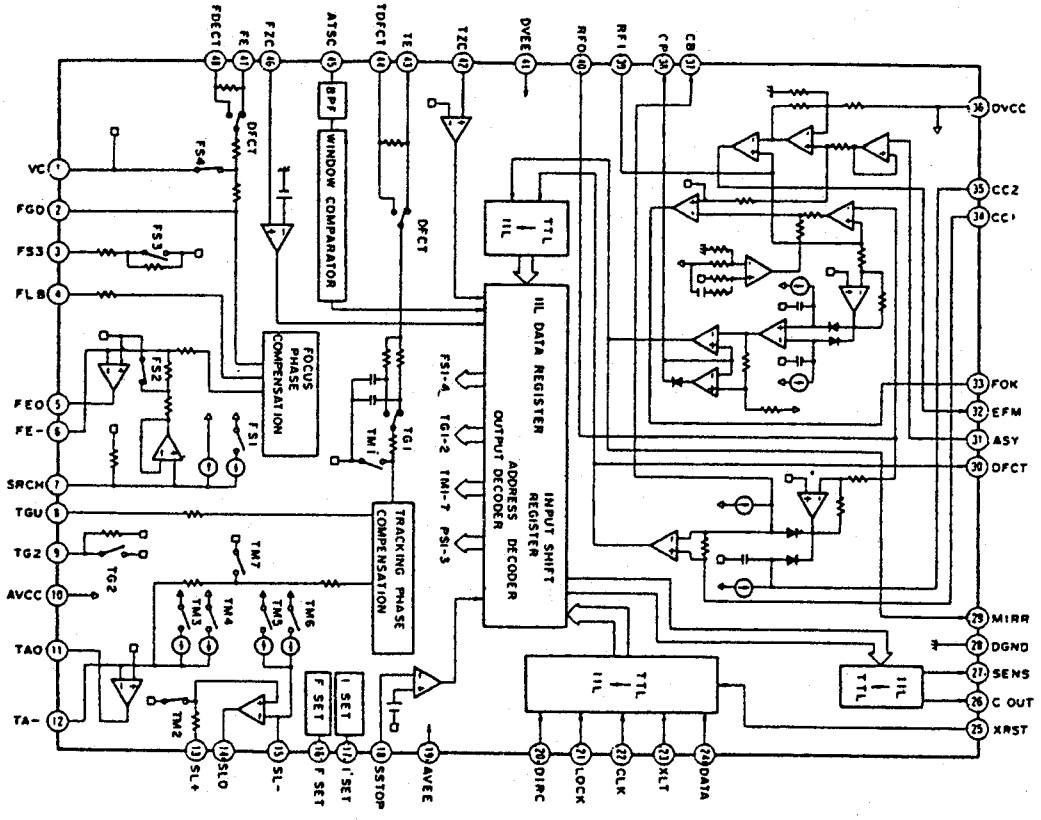
TERMINAL DESCRIPTIONS

Pin No.	Function	Description
1~7	4G~10G	Grid output terminals.
8	VDD	Power supply terminal.
9	CDCLK	Clock output terminal. Connect the terminal CLOCK of signal processor IC.
10	XTL	Latch output terminal. Connect the terminal XLAT of signal processor IC.
11	CDDATA	Data output terminal. Connect the terminal DATA of signal processor IC.
12	MD2	Digital output control output terminal.
13	DSPMUT	Digital muting output terminal. Connect the terminal MUTE of signal processor IC.
14	SQCK	Clock output terminal for SQCK. Connect the terminal SQCK of signal processor IC.
15	SENS	Sense signal input terminal. Connect the terminal SENS of signal processor IC.
16	SQSO	Data input terminal from SQSO. Connect the terminal SQSO of signal processor IC.
17	$\overline{\text{RESET}}$	System reset input terminal.
18	$\overline{\text{STEREO}}$	Stereo broadcast detection input terminal. L when STEREO.
19	$\overline{\text{SD}}$	Broadcast detection input terminal. L when received the broadcast more than muting level.
20	AVSS	Ground terminal for D/A converter.
21	VOL DOWN	Volume control output terminals.
22	VOL UP	Refer the table 1.
23	SBASS	Super bass control output terminal.
24	AREA	Initializing setting terminal for the Frequency range.
25	IN/OUT	Input terminal for tray open/close detection switches.
26	SIGNAL	Signal level input terminal for automatic memory.
27	K1	Operation key connection terminals.
28	K0	
29	AVDD	Analog power supply for D/A converter.
30	AVREF	Reference power supply for D/A converter.
31	$\overline{\text{POFF}}$	Power stoppage detection terminal.
32	XT	Crystal resonator connection terminal for sub system.
33	VSS	Ground terminal.
34	X1	Crystal resonator connection terminal for main system.
35	X2	Connect the 4.19MHz Crystal resonator.
36	RCLK	Clock output terminal for PLL IC and the source selector IC.
37	BUZ	Buzzer control output terminal.
38	RDATA	Data output terminal for PLL IC and the source selector IC.
39	FCE/ST	Strobe output terminal for the source selector IC and electric volume.
40	PLLCE	Chip enable terminal for PLL IC.
41	AMP POWER	Power supply terminal.
42	RDSDATA	Data input terminal from RDS decoder.
43	$\overline{\text{RDSSIG}}$	RDS broadcast detection terminal.
44	$\overline{\text{SCOR}}$	Sub code detection terminal. Connect the terminal SCOR of signal processor IC.
45	$\overline{\text{RDSSCK}}$	Clock input terminal from RDS decoder.
46	SYSIN	System code input terminal.
47	REMIN	Remote control signal input terminal.
48	IC	Connect the ground terminal.
49	$\overline{\text{SYSOUT}}$	System code output terminal.
50	TU MUTE	Muting output terminal for tuner section.
51	ANGMUT	Analog muting output terminal.
52	VDD	Positive power supply terminal.
53	CD POWER	Power supply terminal for CD mechanism.
54	DEFECT	Defect output pin for CD mechanism.
55	CD RESET	Reset output terminal for CD mechanism.
56	FOK	FOK input terminal from CD mechanism.
57	OPEN	CD tray open control output terminal.
58	CLOSE	CD tray close control output terminal.
59	LSR	Optical pickup control output terminal.
60~70	P1~P11	Segment output terminals.
71	VLOAD	Pull-down resistor connection terminal for FL tube controller.
72~77	P12~P17	Segment output terminals.
78~80	1G~3G	Grid output terminals.

IC BLOCK DIAGRAM AND DESCRIPTIONS

IC101

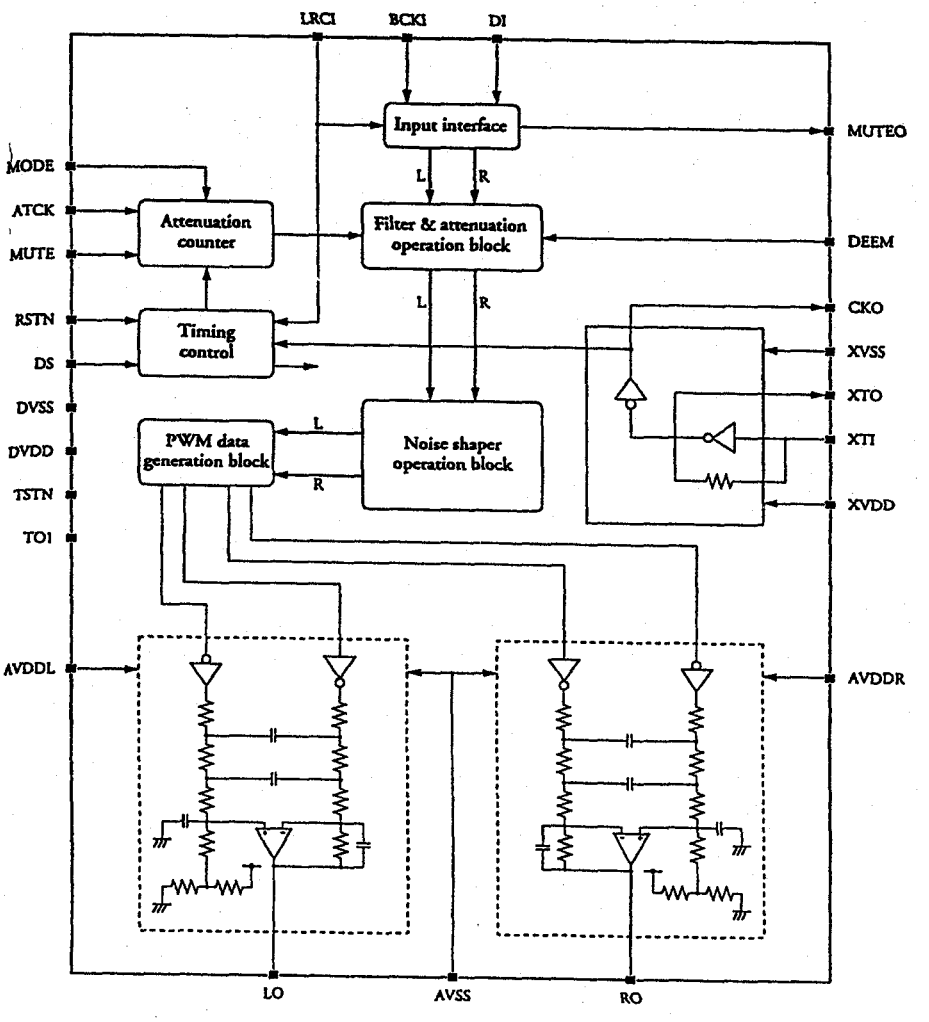
CXA1372Q (Servo Signal Processor)



PIN NO.	SYMBOL	I/O	DESCIRPION
1	VC	I	Mid-point voltage input terminal.
2	FGD	I	Connect the capacitor between FS3 and this pin when the high frequency gain focus servo is dropped.
3	FS3	I	Focus servo high frequency gain changeover input terminal.
4	FLB	I	Input terminal for the low frequency boost of focus servo.
5	FEO	O	Focus drive output terminal.
6	FE-	I	Inversion input terminal of focus amplifier.
7	SRCH	I	Time constant terminal to make the focus search waveform.
8	TGU	I	Tracking high frequency changeover input terminal.
11	TAO	O	Tracking drive output terminal.
12	TA-	I	Inversion input terminal of tracking amplifier.
13	SL+	I	No-inversion input terminal of sled amplifier.
14	SLO	O	Sled drive output terminal.
15	SL-	I	Inversion input terminal of sled amplifier.
16	FSET	I	Peak setting input of phase correction of focus tracking.
17	ISET	I	This terminal is flowed the current so that the focus search,tarcking jump,and sled kick height is decided.
18	SSTOP	I	Inner switch selection input terminal.
20	DIRC	I	This terminal is used when track jump.
21	LOCK	I	The sled runaway prevention circuit operates at the low level.
22	CLK	I	Serial data transfer clock input from microprocessor.

PIN NO.	SYMBOL	I/O	DESCIRPION
23	XLT	I	Latch input terminal for microprocessor.
24	DATA	I	Serial data input terminal for microprocessor.
25	XRST	I	Reset input terminal.Active low.
26	C.OUT	O	Signal output to count the track numbers.
27	SENS	O	This terminal outputs FZC,and SSTOP to according command from the microprocessor.
29	MIRR	O	Mirror comparator output terminal.
30	DFCT	O	Defect comparator output terminal.
31	ASY	I	Auto asymmetry control input terminal.
32	EFM	O	EFM comparator output terminal.
33	FOK	O	Focus OK comparator output terminal.
34	CC1	O	Defect bottom hold output terminal.
35	CC2	I	Defect bottom hold input terminal from CC1.
37	CB	I	Defect bottom hold capacitor connection terminal.
38	CP	I	Mirror hold capacitor connection terminal.
39	RFI	I	RF summing amplifier input terminal.
40	RFO	O	RF summing amplifier output terminal.
42	TZC	I	Tracking zero-cross comparator input terminal.
43	TE	I	Tracking error input terminal.
44	TDFCT	I	Capacitor connection terminal for time constant when defect.
45	ATSC	I	Window comparator input terminal for ATSC detection.
46	FZC	I	Focos zero-cross comparator input terminal.
47	FE	I	Focus error input terminal.
48	FDFCT	I	Capacitor connection terminal for time constant when defect.

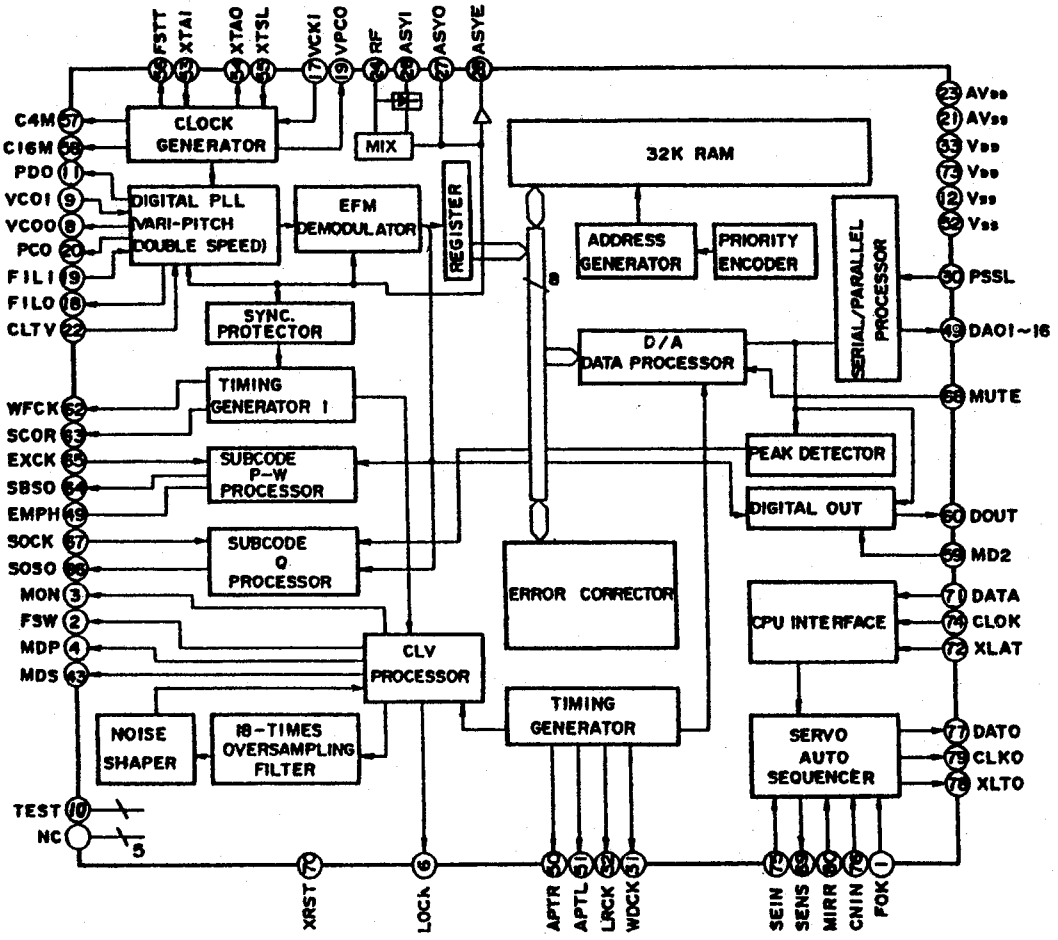
Q302
SM5877AM (DA CONVERTER)



Pin No.	Symbol	I/O	Description
1	MUTE	Ip	MODE=H:Muting control pin
			MODE=L:Attenuator level control pin
2	DEEM	Ip	De-emphasis control pin. On at high level.
3	CKO	O	Clock output pin: 16.9344MHz
4	DVSS	-	Digital supply pin
5	BCKI	Ip	Bit clock input pin
6	DI	Ip	Serial data input pin
7	DVDD	-	Digital supply pin
8	LRCI	Ip	Sampling rate clock input pin
9	TSTN	Ip	Test input pin
10	TOI	O	Test output pin
11	AVDDL	-	Analogue supply pin for left channel
12	LO	O	Analogue signal output pin for left channel

Pin No.	Symbol	I/O	Description
13	AVSS	-	Analogue supply pin
14	RO	O	Analogue signal output pin for right channel
15	AVDDR	-	Analogue supply pin for right channel
16	TUTEO	O	Infinity zero detect output
17	XVDD	-	Supply pin for resonator system
18	XTI	I	Crystal connection or external clock input pin
19	XTO	O	Crystal connection pin
20	XVSS	-	Supply pin for resonator system
21	DS	Ip	Playback speed select pin. Double speed at H
22	RSTN	Ip	Reset pin
23	MODE	Ip	Muting/Attenuator mode select pin
24	ATCK	Ip	Attenuator level setting clock

Q301
CXD2500A/BQ (Digital Signal Processor)

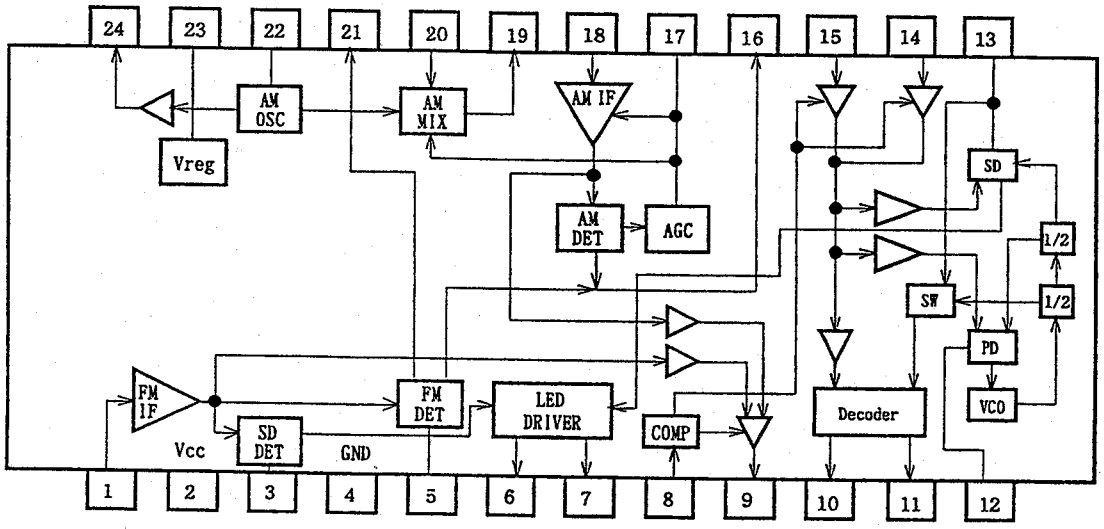


NO.	SYMBOL	I/O	DESCRIPTION
1	FOK	I	Foucs Ok input
2	FSW	O	Output filter changeover output for spindle motor
3	MON	O	Spindle motor control output
4	MDP	O	Spindle motor servo control
5	MDS	O	Spindle motor servo control
6	LOCK	O	H when GFS is the high level
7	NC		
8	VCOO	O	Oscillation circuit output for analog EFM PLL.
9	VCOI	I	Oscillation circuit input for analog EFM PLL. (8.6436MHz)
10	TEST	I	Test terminal
11	PDO	O	Charge pump output analog EFM PLL
12	Vss		Ground terminal
13-15	NC		
16	VPCO	O	PLL charge pump output for variable pitch
17	VCKI	I	Clock input for variable pitch from VCO (16.934MHz)
18	FILO	O	Filter output for master PLL.
19	FILI	I	Filter input for master PLL.
20	PCO	O	Charge pump output of master PLL
21	AVss		Analog ground
22	CLTV	I	VCO control voltage input for master
23	AVDD		Analog section power supply (+5V)
24	RF	I	EFM signal input
25	BIAS	I	Asymmetry circuit constant current input
26	ASYI	I	Asymmetry comparator voltage input
27	ASYO	O	EFM full swing output
28	ASYE	I	Asymmetry control circuit
29	NC		
30	PSSL	O	Audio data output mode changeover input Serial data at L and paraller data at H.
31	WDCK	I	D/A interface for 48 bits slot. Word clock f=2Fs.
32	LRCK	I	D/A interface for 48 bits slot. LR clock f=Fs.
33	VDD		Power supply terminal (+5V)
34-49			Data output terminals
			PSSL=1 / PSSL=0
34	DA16	O	DA16 / Serial data of 48 bits slot
35	DA15	O	DA15 / Bit clock of 48 bits slot
36	DA14	O	DA14 / Serial data of 64 bits slot
37	DA13	O	DA13 / Bit clock of 68 bits slot
38	DA12	O	DA12 / LR clock of 68 bits slot
39	DA11	O	DA11 / GTOP output
40	DA10	O	DA10 / XUGF output
41	DA09	O	DA09 / XPLCK output

NO.	SYMBOL	I/O	DESCRIPTION
42	DA08	O	DA08 / GFS output
43	DA07	O	DA07 / RFCK output
44	DA06	O	DA06 / C2P0 output
45	DA05	O	DA05 / XRAOF output
46	DA04	O	DA04 / MNT 3 output
47	DA03	O	DA03 / MNT 2 output
48	DA02	O	DA02 / MNT 1 output
49	DA01	O	DA01 / MNT 0 output
50	APTR	O	Control output for aperture correction. H when R ch.
51	APTL	O	Control output for aperture correction. H when L ch.
52	Vss		Ground terminal
53	XTAI	I	Crystal oscillation circuit input of 16.9344MHz or 33.8688MHz input.
54	XTAO	O	Crystal oscillation circuit output of 16.9344MHz.
55	XTSL	I	Crystal selection input terminal. L when 16.9344MHz. H when 33.8688MHz.
56	FSTT	O	2/3 divided output of pins 53 and 54.
57	C4M	O	4.2336 MHz output
58	C16M	O	16.9344 MHz output
59	MD2	I	Digital output control input. On at high level.
60	DOUT	O	Digital output
61	EMPH	O	Emphasis control output. Active high.
62	WFCK	O	Write frame clock output
63	SCOR	O	Sub-code detection output. H when is detected SO or SI.
64	SBSO	O	Serial output of sub-code (P～W)
65	EXCK	I	Clock input for read out SQSO.
66	SQSO	O	Sub Q 80 bits, PCM peak, and level data 16 bits output.
67	SQCK	I	Clock input for read out SQSO
68	MUTE	O	Muting control output. Active H.
69	SENS		Sens output. Output to the microprocessor
70	XRST	I	System reset. Reset at the low level.
71	DATA	I	Serial data input from the microprocessor.
72	XLTA	I	Latch input from the microprocessor. Latch the serial data at the trailing.
73	VDD		Power supply treminal
74	CLOK	I	Serial data transfer clock input from microprocessor
75	SEIN	I	Sens input from SSP
76	CNCI	I	Track jump numbers count signal input
77	DATO	O	Serial data output to SSP
78	XLTO	O	Serial data latch output to SSP. Latch at trailing.
79	CLKO	O	Serial data transfer clock output to SSP.
80	MIRR	I	Mirror signal input

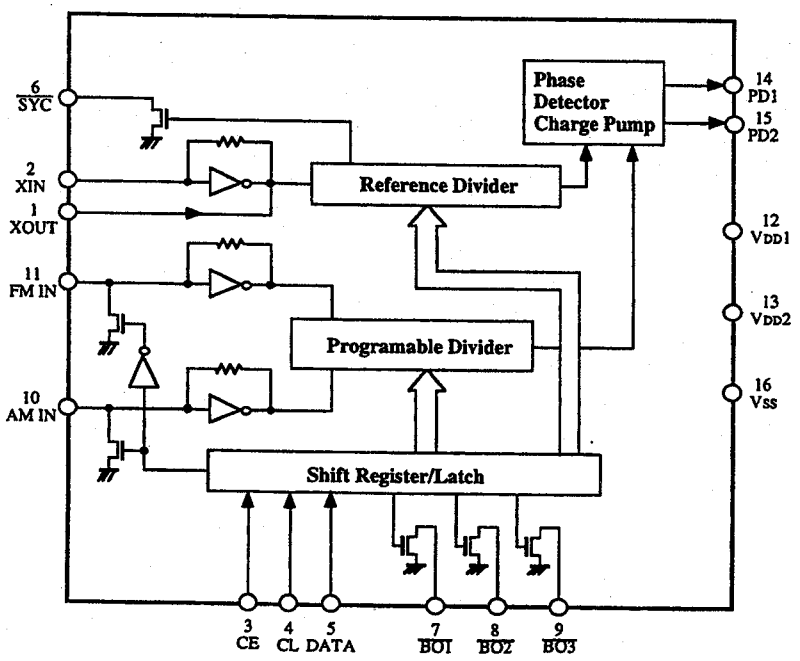
Note: SSP: IC101 CXA1372Q

Q104
BA1448S (AM Radio, FM IF, and Stereo System)



No.	Terminal Descriptions	No.	Terminal Descriptions
1	FM IF amplifier input terminal	13	Pilot filter and monaural selector terminal
2	Power supply terminal	14	FM Multiplex input terminal
3	FM tuning level adjustment terminal	15	AM detector signal input terminal
4	Ground terminal	16	FM/AM detector signal output terminal
5	FM discriminator terminal	17	AM AGC terminal
6	Tuning indicator terminal	18	AM IF input terminal
7	Stereo indicator terminal	19	AM mixer output terminal
8	IF request and Muting terminal	20	AM antenna terminal
9	IF signal terminal	21	FM band width adjustment terminal
10	Right channel output terminal	22	AM local oscillator connection terminal
11	Left channel output terminal	23	Reference voltage terminal
12	PLL filter/AM/FM band selector terminal	24	AM local oscillator output terminal

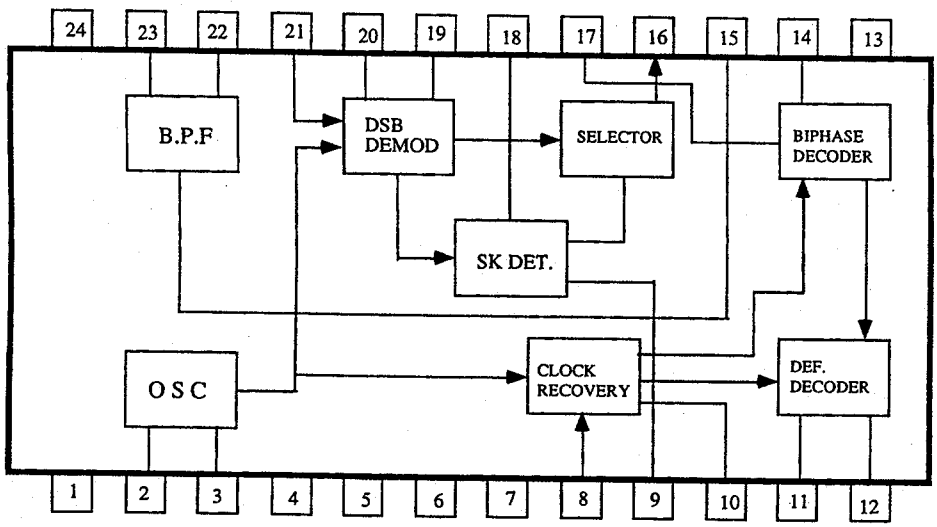
Q131
LM7001 (PLL Synthesizer and Controller)



Q131 LM7001

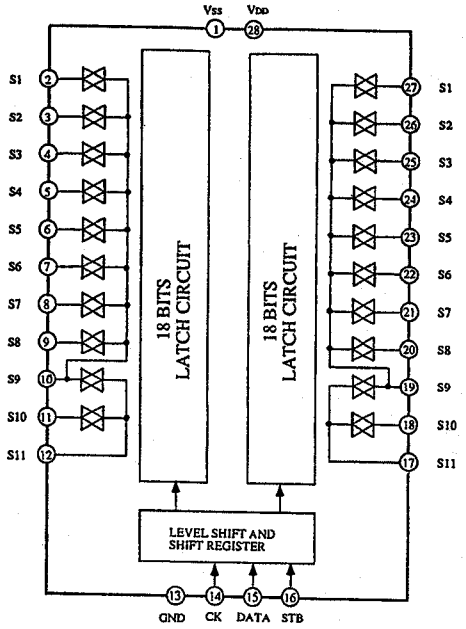
Pin No.	Terminal	Description
1	XOUT	Connect the 7.2MHz crystal resonator.
2	XIN	
3	CE	Chip enable terminal. Connect to the terminal PLLCE1 of microprocessor.
4	CL	Serial clock input terminal. Connect to the terminal PLLCL of microprocessor.
5	DATA	Serial data input terminal. Connect to the terminal PLLDATA of microprocessor.
6	$\overline{SYN}$	Not used.
7	$\overline{SAT}$/CANLE	Power source control terminal for DSR. Cable at the high level and Satellite at low.
8	LPF	LPF selector output.
9	ANT	Antenna selector output. A at high level and B at low level.
10	AMIN	AM local oscillator input terminal.
11	FMIN	FM local oscillator input terminal.
12	VDD1	Power source terminal for back-up.
13	VDD2	Power source terminal.
14	PD1	Phase comparator output
15	PD2	Phase comparator output
16	Vss	Ground terminal

Q181
μPC1346CS (RDS DECODER)

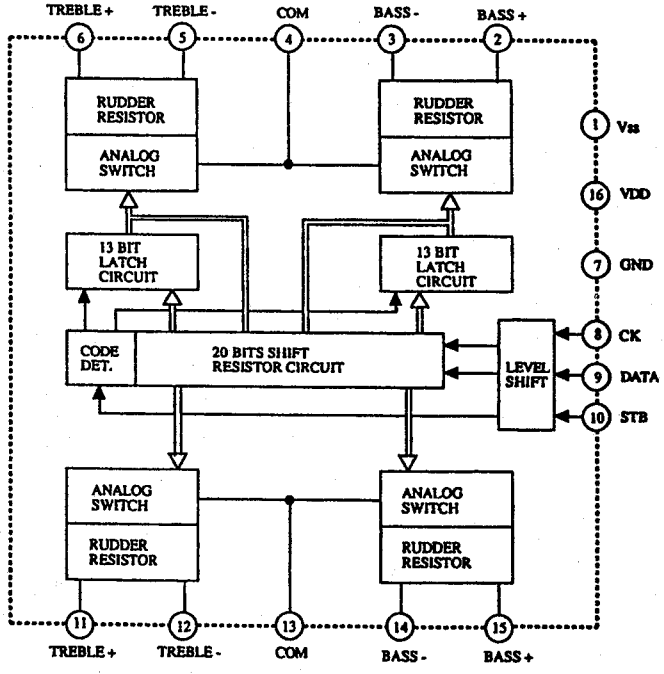


No.	Terminal	Description	No.	Terminal	Description
1	Vcc	Supply voltage for the digital circuit	13	GND	Ground for the analog circuit
2	OSC IN	Resonator input	14	INTEG	Integrating filter terminal
3	OSC OUT	Resonator output	15	BPF ADJ	Adjustment fc of band pass filter
4	GND	Ground for the digital circuit	16	PSK OUT	Biphase signal output
5	TEST1	Test input	17	PSK IN	Biphase decoder input
6	TEST2	Test input	18	LPF SK	Low pass filter for the detection SK
7	OP.CTL	Control input of the operation stop	19	LPF Q	Low pass filter for the crossed detector
8	S/L CTL	Mode control input of the synchonizing detection	20	LPF I	Low pass filter for the synchronizing detector
9	SK OUT	SK detection output	21	DSB IN	DSB demodulator circuit input
10	RDS OUT	RDS synchonizing detection output	22	BPF OUT	Band pass filter output
11	CLOCK OUT	Bit rate clock output	23	BPF IN	Band pass filter input
12	DATA OUT	RDS data output	24	Vcc	Supply voltage for analog circuit

Q401
TC9273N-007 (Analog Switch)

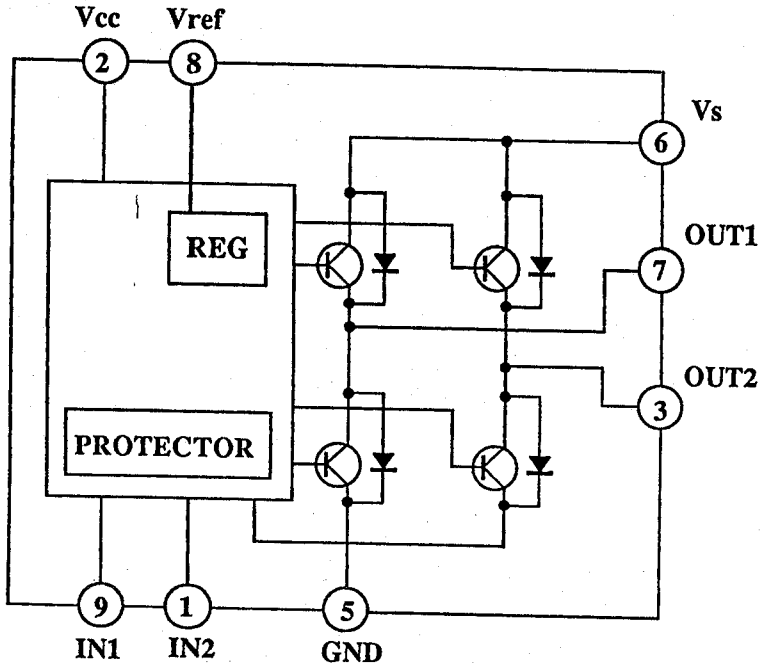


Q521
TC9184P (Electro Tone Volume)



No.	Symbol	Function
1	Vss	Power supply terminal for analogue section
16	VDD	
2,15	BASS +	Volume terminals
3,14	BASS -	
5,12	TREBLE -	
6,11	TREBLE +	
4,13	COM	
7	GND	Ground terminal for digital section
8	CK	Clock input terminal to take in the data of terminal DATA.
9	DATA	Data input terminal
10	STB	Strobe input terminal

Q704
TA7291S (VOLUME MOTOR DRIVER)



INPUT		OUTPUT		
IN1	IN2	OUT1	OUT2	MODE
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

CCW:Counter clockwise direction
CW:Clockwise direction

REMOVEMENT OF TRAY ASS'Y

Remove the top cover.
Turn the locked screw to the clockwise to release the lock of gear.(Refer fig.1)
Pull out the tray ass'y.
Remove the stopper.(Refer fig.2)
Press the tray stopper to the arrow mark direction and remove the tray ass'y.

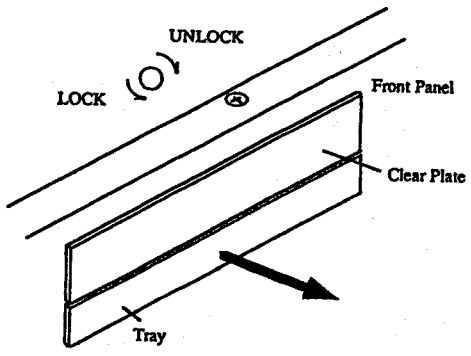


fig.1

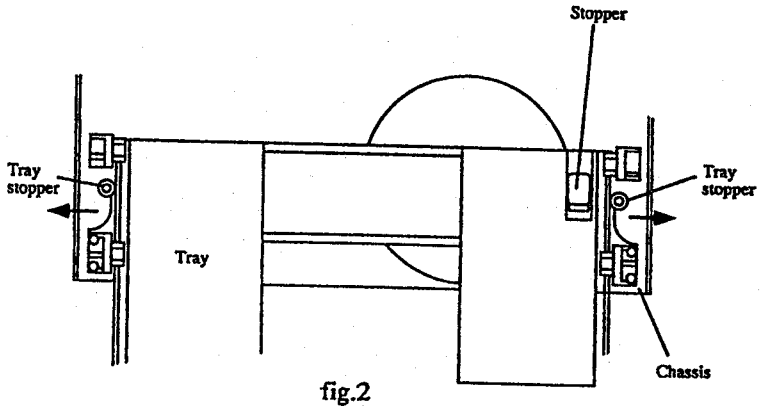
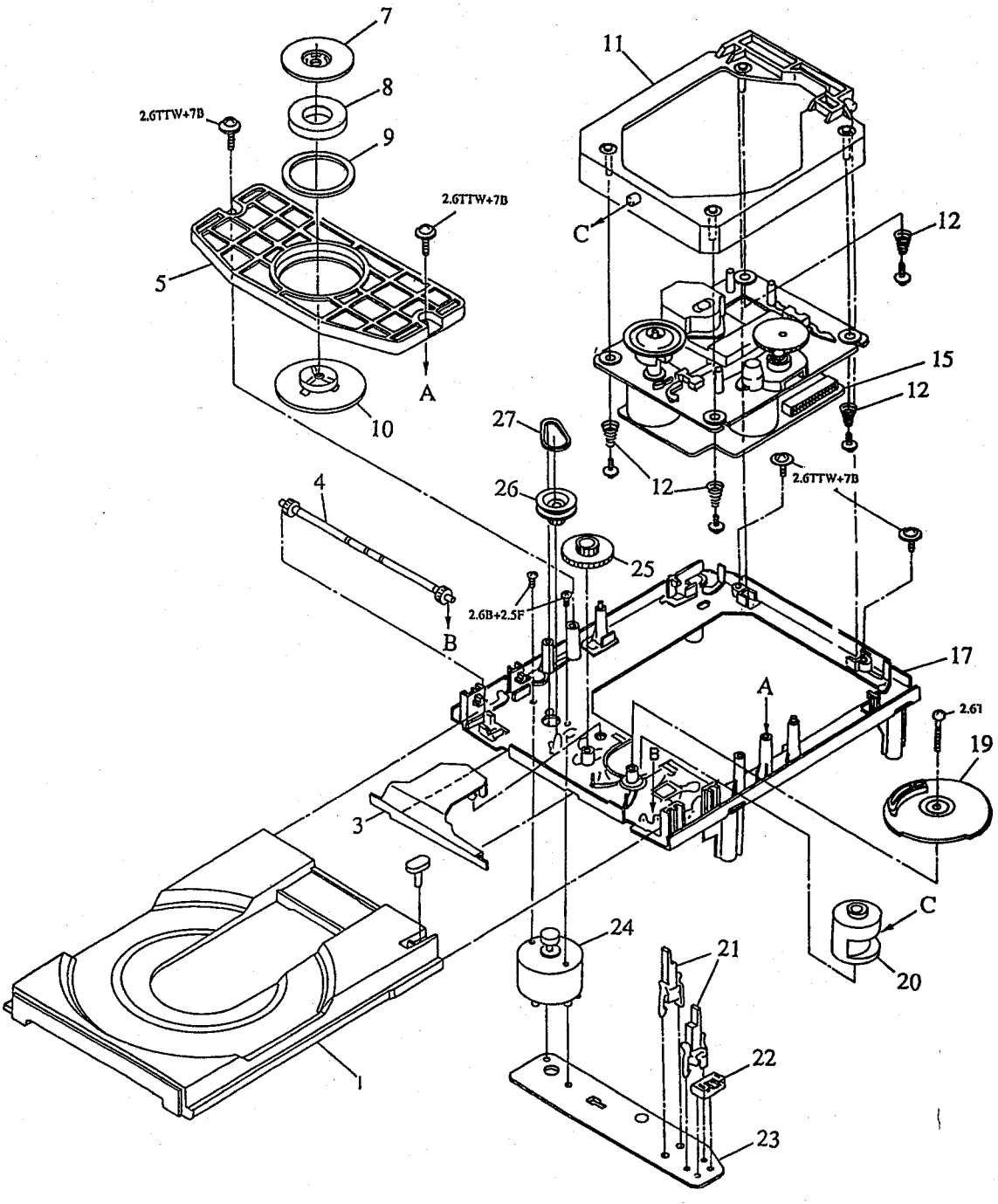
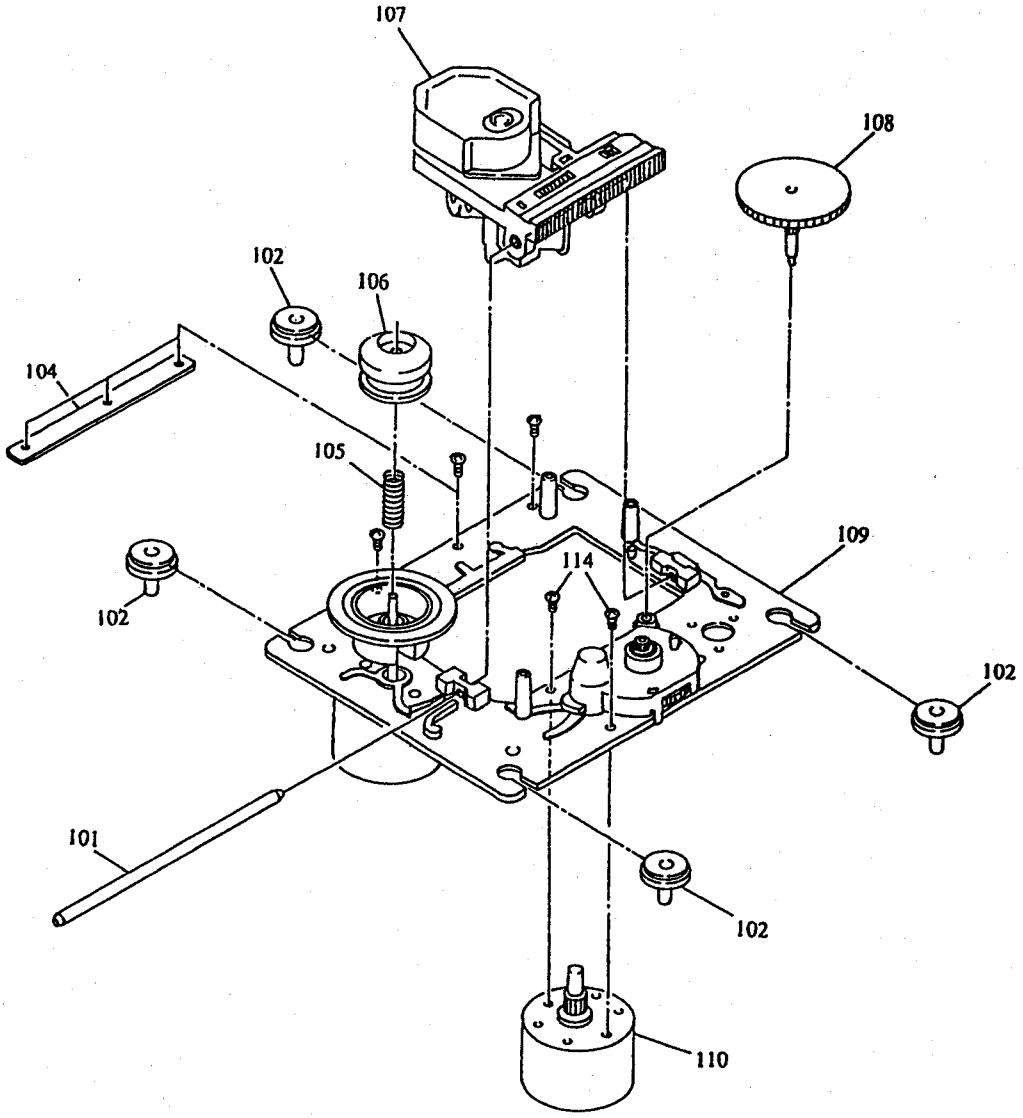


fig.2

MECHANISM-EXPLODED VIEW





PARTS LIST

REF.NO.	PART NO.	DESCRIPTION
1	24840053	Tray
3	24822014	Gear cover
4	24810020	Tray gear
5	24840061	Chucking plate
7	24830003	Chucking yoke
8	24832004	Magnet
9	24836013	Damper
10	24810024	Chucking plate
11	24802012	Sub-chassis
12	24820023	Spring
15	24840075	CD servo pcb ass'y
17	24802013	Main chassis
19	24810021	Drive gear
20	24840063	Control cam
21	24840064	Leafswitch

REF.NO.	PART NO.	DESCRIPTION
22	25055369	NPLG-5P352,Plug
23	24840066	Loading motor pc board
24	24840067	Loading motor
25	24810022	Middle gear
26	24810025	Loading plate
27	24816008	Belt
101	24828006	Sled shaft S
102	24836014	Insulator S
104	24822015	Plate S
105	24820024	Spring
106	24824003	Center ring
107	24110011	KSS-240A,Optical pickup
108	24810023	Wheel
109	24802014	Chassis
110	24804012	Motor gear

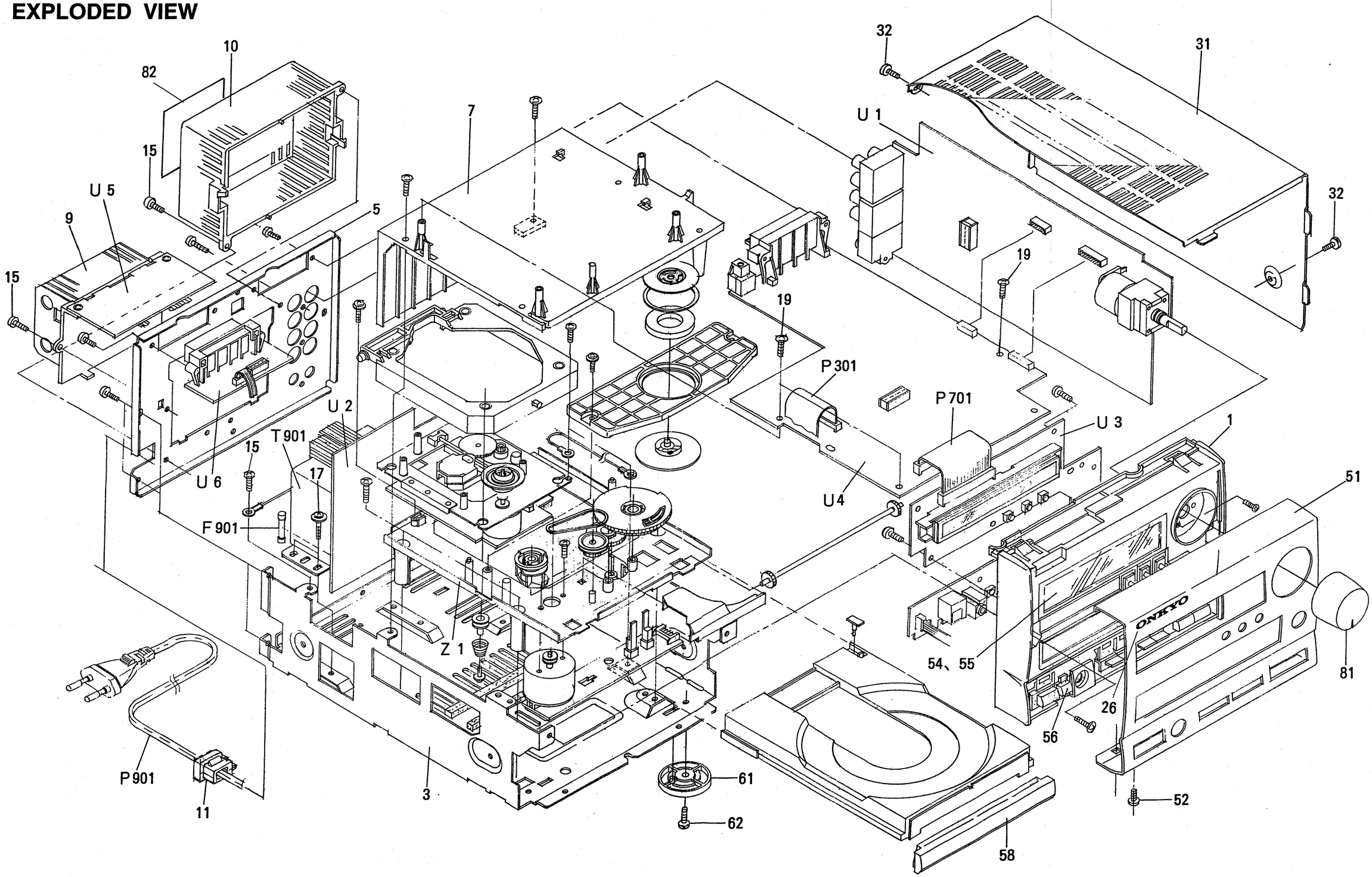
PARTS LIST

REF.NO.	PART NO.		DESCRIPTION
1	27110972C		Front bracket
3	27100296		Chassis
5	27122299		Rear panel
7	28184583		Cover, mechanism
9	27160350		Heatsink
10	28184584		Cover HT
11	27300750	⚠	Cord, bushing
17	830440069		4TTC+6C(BC),Self-tapping screw
18	801433		3SMS8W.SW+14B(BC),Special screw
19	838130088		3TTB+8B,Self-tapping screw
32	838230088		3TTB+8B(NI),Self-tapping screw
26	28135247		Badge
30	28141059		Cushion
31	28184586AZ		Top cover
37	28141264		Cushion
51	27212026		Front panel
52	801525		3TTB+8B(BC),Self-tapping screw
54	28133260		Back plate
55	28191711		Clear plate
56	28191712		Clear plate RE
58	28148348A		Door
61	27175252-1B		Bottom leg
81	28325612		Knob, volume
82	29362333		Rating label <P/T>
82	29362334		Rating label <D>
E850	260208		Wire tie
F901	252083	⚠	0.4A-SE-EAWK,Fuse <P/T>
F901	252158	⚠	1.6A-UL/T-237,Fuse <D>
P301	2046223012		NCFC6-223012,Flexible flat cable
P701	2047350512		NCFC7-350512,Flexible flat cable
P901	253193HIT	⚠	AS-CEE,Power supply cord <P/T>
P901	253191HIT	⚠	AS-UC-7#18(SPT-1), Power supply cord <D>
Q557	2202063,	*	2SC4511-O,
Q558	2202064 or	*	2SC4511-Y or
	2202066	*	2SC4511-P, Transistor
Q559	2202053,	*	2SA1725-O,
Q560	2202054 or	*	2SA1725-Y or
	2202056	*	2SA1725-P,Transistor
T901	2301125 or	⚠	NPT-1241P or
T901 or	2301108	⚠	NPT-1241P, Power transformer <P/T>
T901	2301142 or	⚠	NPT-1241D or
T901 or	2301143	⚠	NPT-1241D, Power transformer <D>
U001	1H390541-2B		NAAF-5941-2B, Preamplifier circuit PC board ass'y <P/T>
U001	1H390541-2C		NAAF-5941-2C,Preamplifier circuit PC board ass'y<D>
E102	1H390542-2B		NAPS-5942-2B,Power supply circuit PC board ass'y <P/T>
E102	1H390542-2C		NAPS-5942-2C,Power supply circuit PC board ass'y <D>
E103	1H390543-2B		NADIS-5943-2B,Display circuit PC board ass'y <P/T>
E103	1H390543-2C		NADIS-5943-2C, display circuit PC board ass'y<D>
U002	1H390544-2B		NAAR-5944-2B,Tuner circuit PC board ass'y
E202	1H390545-2B		NAAF-5945-2B, Main amplifier circuit PC board ass'y
E203	1H390546-2B		NAETC-5946-2B,Speaker terminal PC board ass'y
Z1	24800009C		NCD-130S, CD mechanism ass'y

NOTE: <P>: European model only
<T>:Asian model only
<D>: 120V model only

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

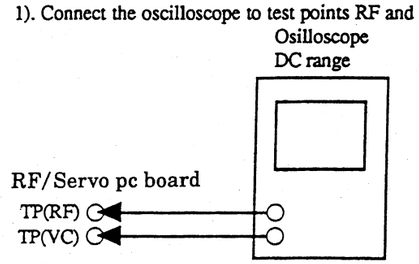
EXPLODED VIEW



ADJUSTMENT PROCEDURES

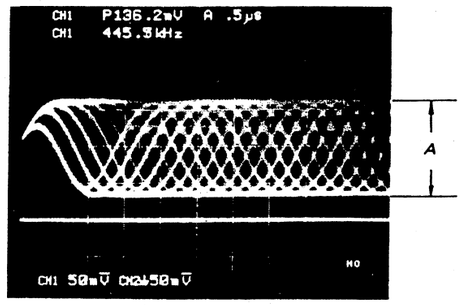
It is not necessary to perform the adjustment of optical pickup.
This confirmation should be made when replacing the optical pickup.

1). Connect the oscilloscope to test points RF and VC.



2). Turn the power switch on.
3). Load the test disc YEDS-18 on the tray and press the play button.
4). Confirm that the waveform on the oscilloscope is optimum eye pattern and optimum level as shown photo 1.
Optimum eye pattern means that shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform



A = 1.2V ± 0.2 (Vp-p)

REFERENCE

Focus/Tracking Gain Adjustment

A frequency response analyzer is necessary in order to perform this adjustment exactly.

However, this gain has a margin, so even if it is slightly off, there is no problem. Therefore, do not perform this adjustment.

Focus/tracking gain determines the pick-up follow-up (vertical and horizontal) relative to mechanical noise and mechanical shock when the 2-axis device operate.

However, as these reciprocate, the adjustment is at the point where both are satisfied.

- When gain is raised, the noise when the 2-axis device operates increases.
- When gain is lowered, it is more susceptible to mechanical shock and skipping occurs more easily.
- When gain adjustment is off, the symptoms below appear.

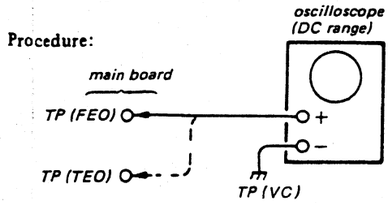
Symptoms \ Gain	Focus	Tracking
• The time until music starts becomes longer for STOP →▷PLAY or automatic selection (⏮ ⏭ buttons pressed. (Normally takes about 2 seconds.)	low	low or high
• Music does not start and disc continues to rotate for STOP→▷PLAY or automatic selection (⏮ ⏭ buttons pressed.)	–	low
• Sound is interrupted during PLAY. Or time counter display stops progressing.	–	low
• More poise during 2-axis device operation.	high	high

The following is a simple adjustment method.

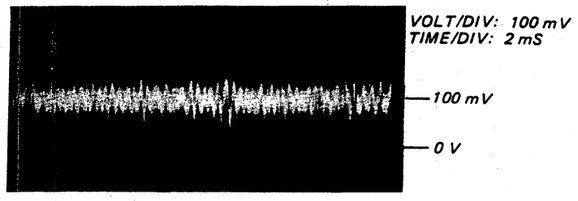
– Simple Adjustment –

Note: Since exact adjustment cannot be performed, remember the positions of the controls before performing the adjustment. If the positions after the simple adjustment are only a little different, return the controls to the original position.

Procedure:

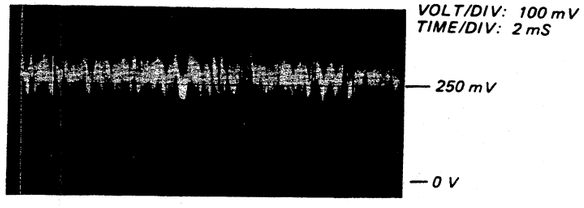


1. Keep the set horizontal.
(If the set is not horizontal, this adjustment cannot be performed due to the gravity against the 2 axis device.)
2. Insert disc (YEDS-18) and press ▷PLAY button.
3. Connect oscilloscope to RF/Servo board TP (FE).
4. Adjust RV102 so that the waveform is as shown in the figure below. (focus gain adjustment)

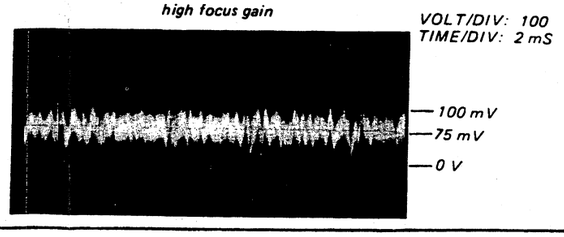


- Incorrent Examples (DC level changes more than on adjusted waveform)

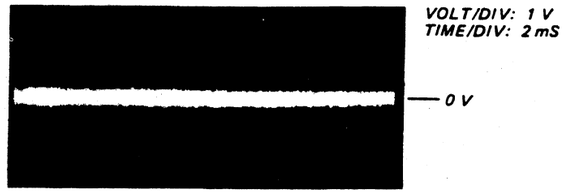
low focus gain



high focus gain

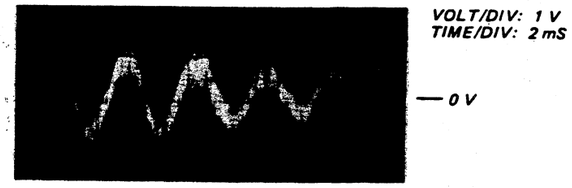


5. Connect oscilloscope to RF/Servo board TP (TE).
6. Adjust RV101 so that the waveform is as shown in the figure below. (tracking gain adjustment)

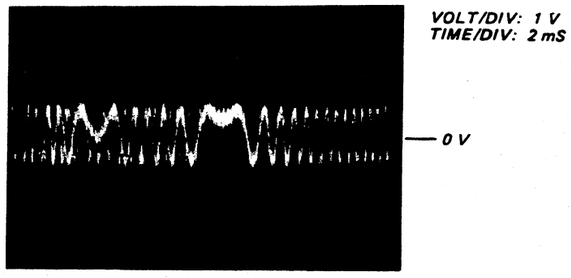


- Incorrect Examples (fundamental wave appears)

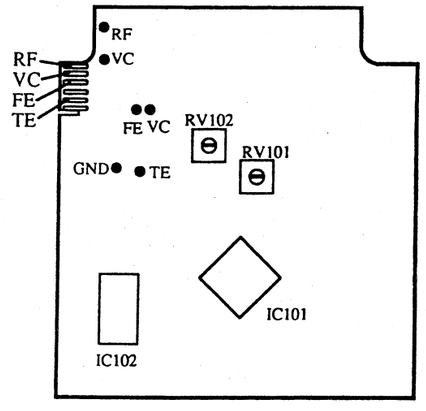
low tracking gain



high tracking gain
(higher fundamental wave than for low gain)



Adjustment Location: RF/Servo board



ADJUSTMENT PROCEDURES

Preparation

1. Input

FM mono: 1kHz, 75kHz devi., 60dB/μV

FM stereo: 1kHz, 67.5kHz devi., 60dB/μV

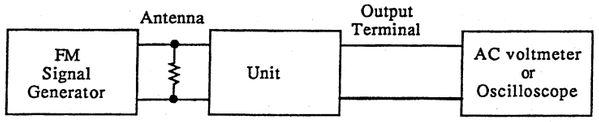
Pilot signal 19kHz 7.5kHz devi.

2. Outputs

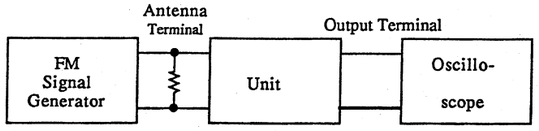
Connect the non-inductive type resistor of 8 ohms to the all speaker terminals unless otherwise noted.

FM ADJUSTMENT

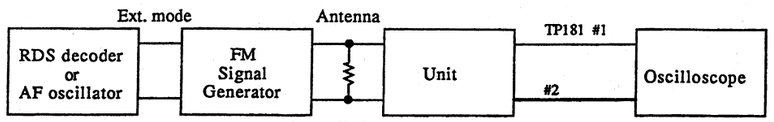
Item	Connection of instrument	FM SG output	Stereo modulator output	Tuning frequency	Output indicator	Adjustment point	Adjust for	Remarks
FM RF	Fig.1	99.0MHz 1kHz 75kHz devi. 65dBf(60dB)	——	99.0MHz	AC voltmeter	IFT on the front end	Maximum	FM MUTE/MODE switch:MONO
Muting Level	Fig.2	99.0MHz 19.2dBf(14dB)	——	99.0MHz	Oscilloscope	R101	Signal output	FM MUTE/MODE switch:AUTO
RDS	Fig.3	99.0MHz Ext. mod.60dB	RDS data or 57kHz 3% devi.	99.0MHz	Oscilloscope	R181	Maximum	



<Fig. 1>



<Fig. 2>



<Fig. 3>

SERVICE PROCEDURES

1. Replacing the fuses

This symbol located near the fuse indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utlise est a rapide. Pour une protection permanente, n'utiliser que des fusibles de meme type. Ce darnier est indique la qu le present symbol est appose.

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252083	0.4A-SE-EWK, Primary <230V model>
	252158	1.6A-UL/T-237, Primary <120V model>

2. To Initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external. power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.

To perform a result, please follow the procedure below.

1. **Press and hold down the MEMORY button, then press the FM / AM button.**
2. **Press the POWER button.**
3. **After "clear" is displayed, the preset memory and each mode stored in the memory, are initialized and will return to the factory settings.**

3. Safety-check out

After correcting the original service problem, perform the following safety check before releasing the set to the customer. Connect the insulating-resistance tester between the plug of power supply cord and the screw on the back panel.

Specifications: More than 10 MΩ at 500V.

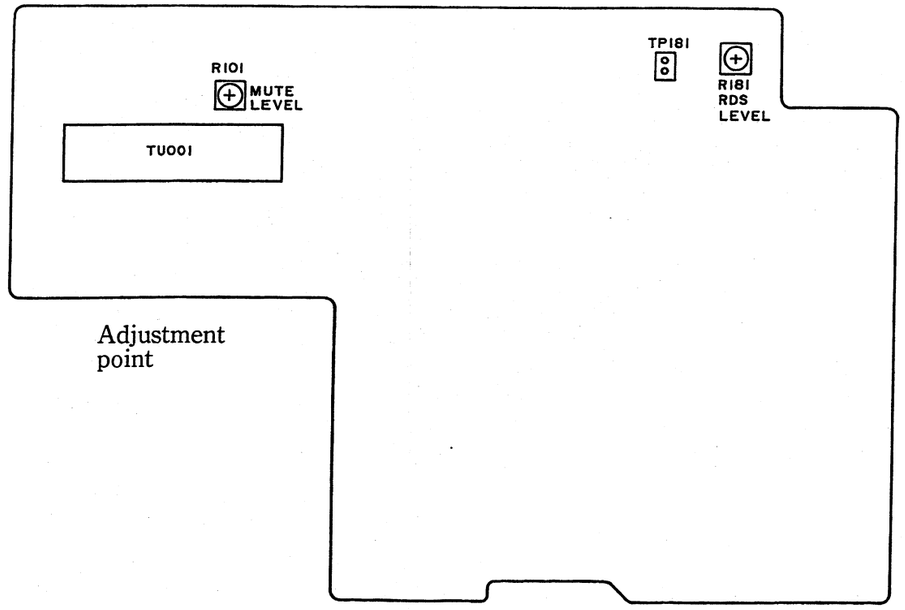
4. Memory preservation

This unit does not require memory preservation batteries.

A built-in memory power back-up system preserves contents of the memory during power failures and even when the unit is unplugged.

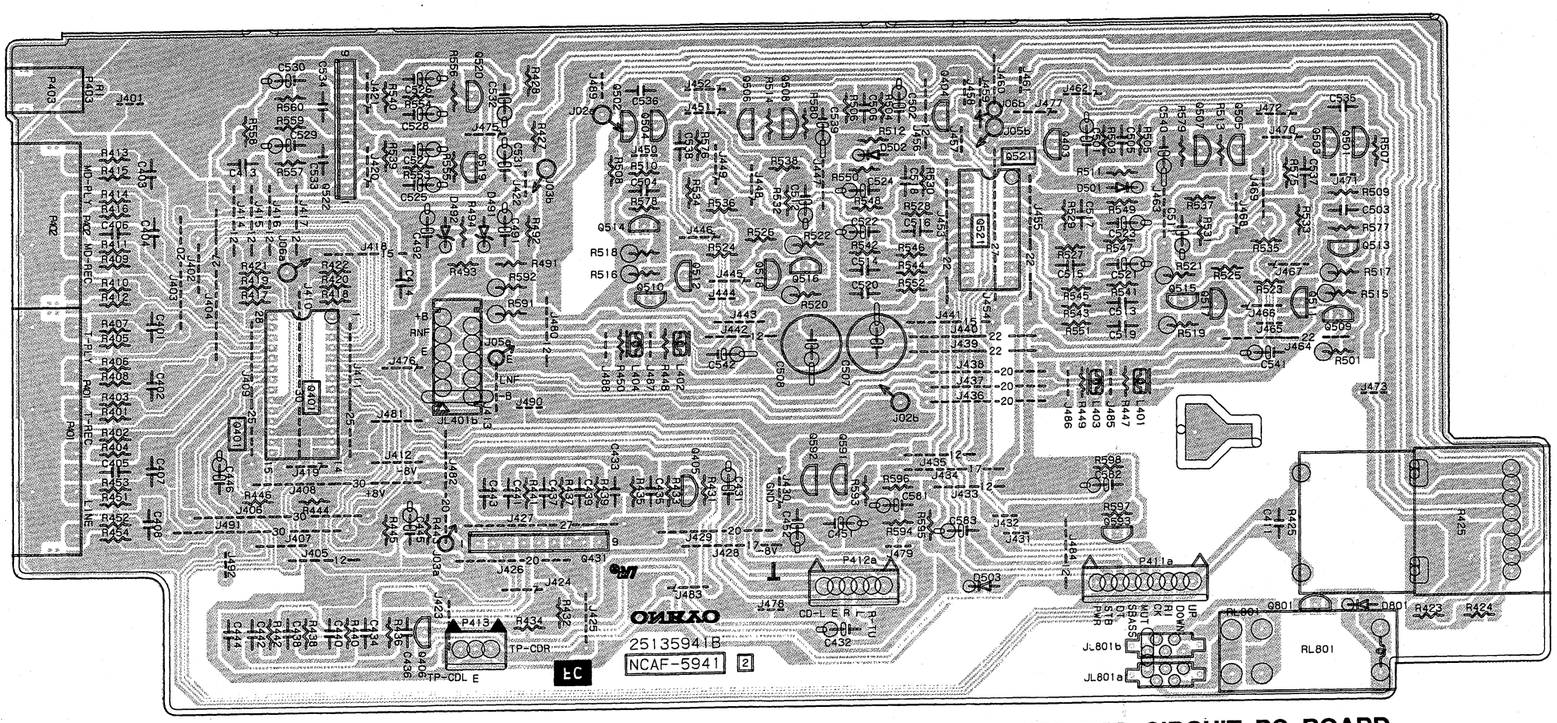
The unit must be plugged in and the power switch turned on and off once in order to charge the back-up system. Note that since this is not a permanent memory, the power switch must be turned on and off a few times each month the keep the back-up system operative.

The period of the time during which memory contents are preserved after power has last been turned off varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of 3 to 4 weeks (a minimum of 2 weeks) after the last time power has been turned off. This period is shorted when the unit is exposed to very high humidity or used in an area with an extremely humid climate.

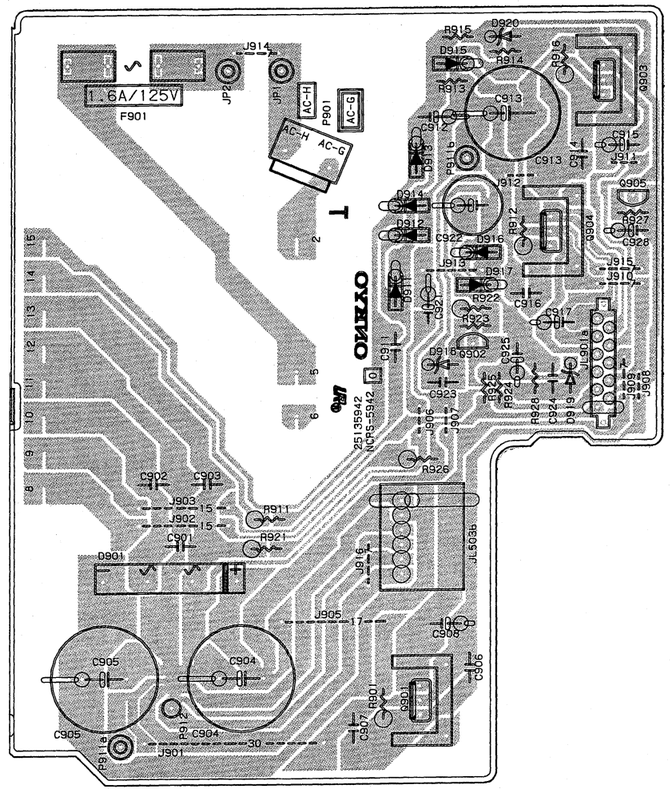


VIDE-V24362 / DRUCK 3

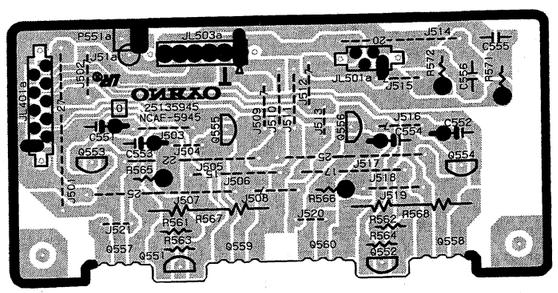
PC BOARD VIEW FROM BOTTOM SIDE



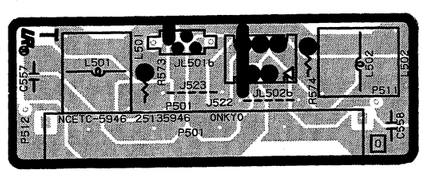
PREAMPLIFIER CIRCUIT PC BOARD



POWER SUPPLY CIRCUIT PC BOARD

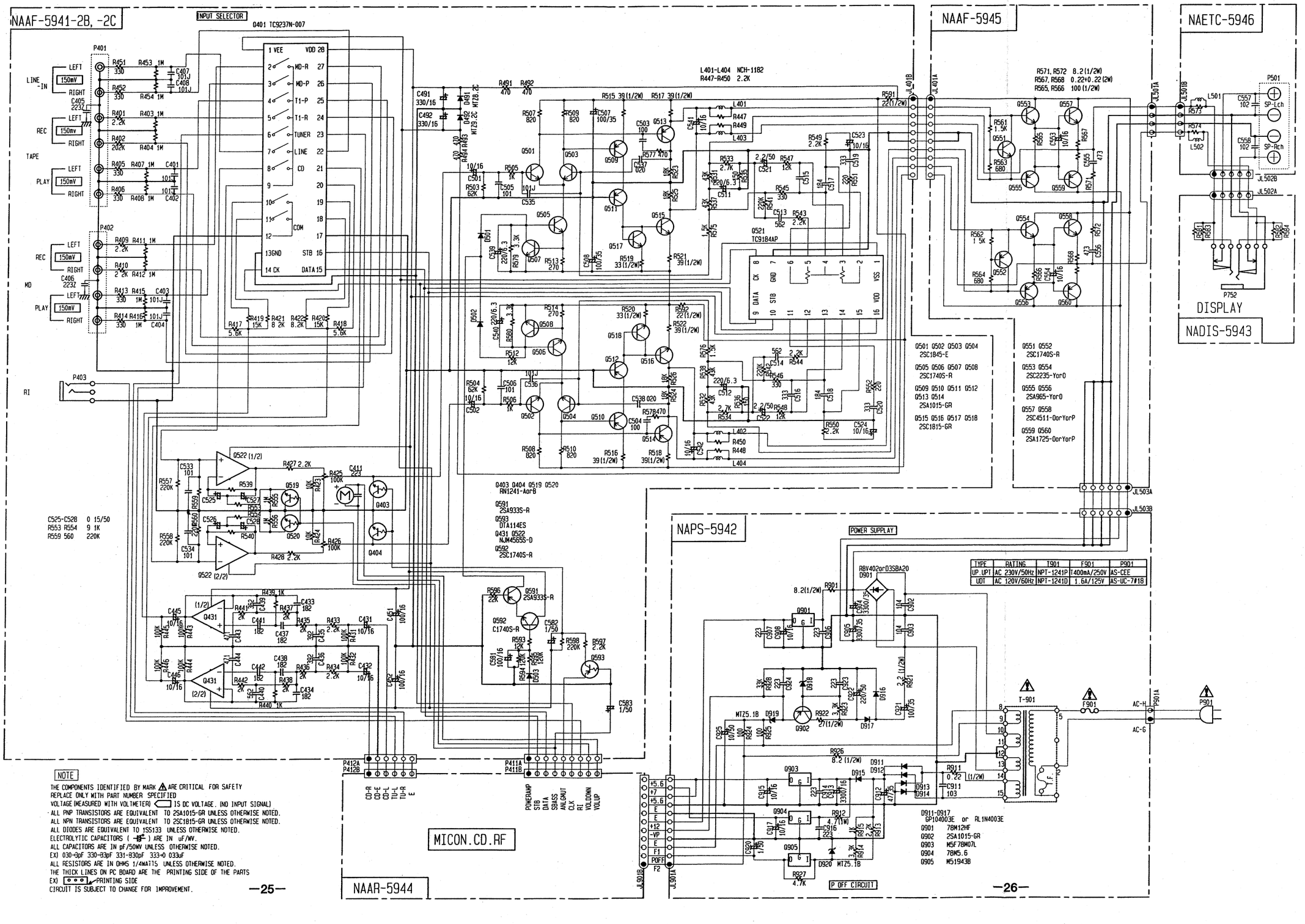


MAIN AMPLIFIER CIRCUIT PC BOARD

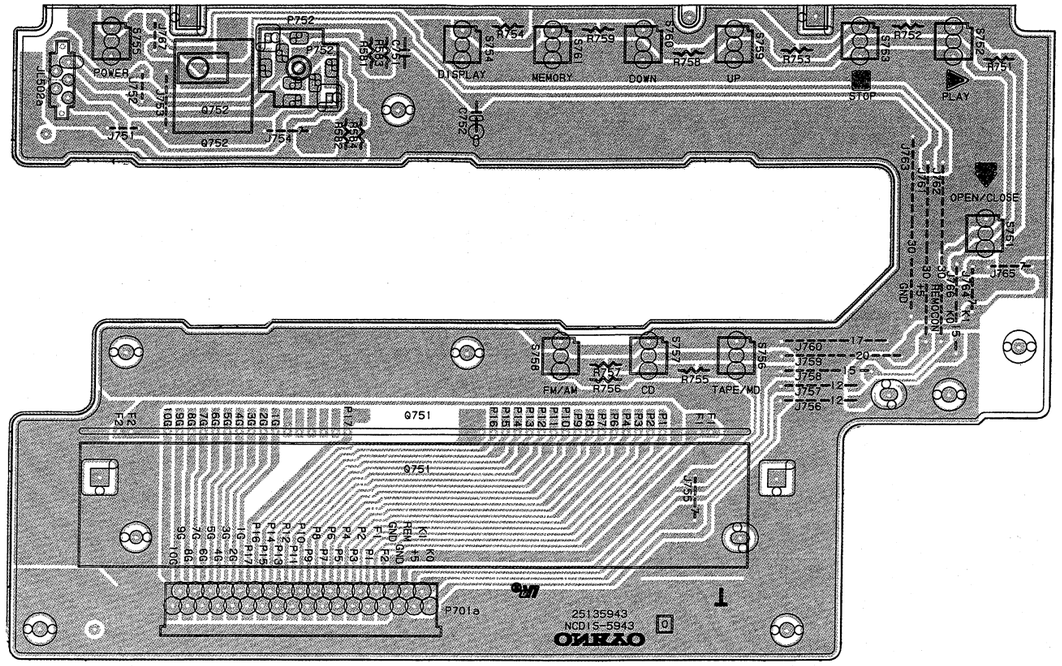


SPEAKER TERMINAL PC BOARD

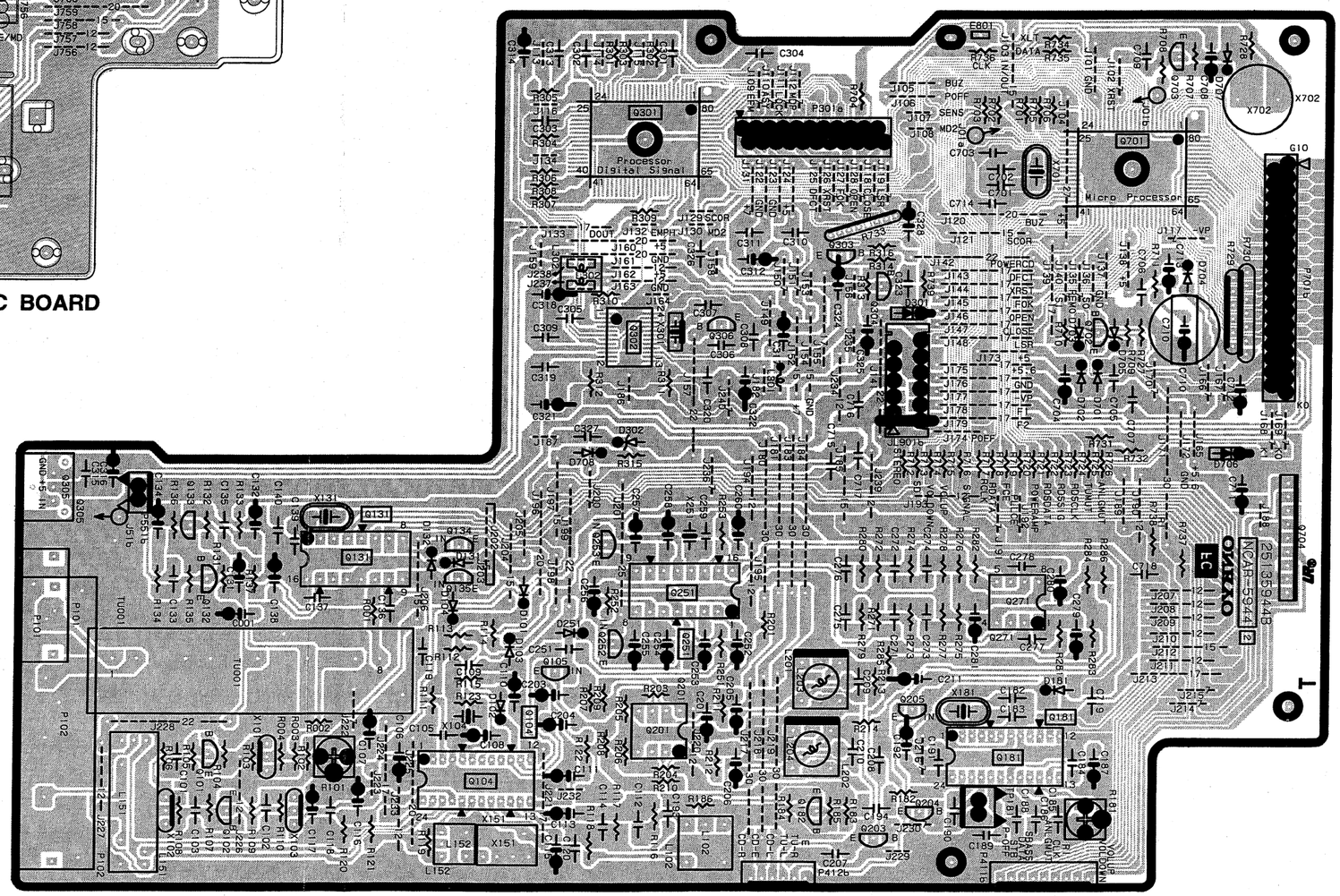
SCHEMATIC DIAGRAM



PC BOARD VIEW FROM BOTTOM SIDE

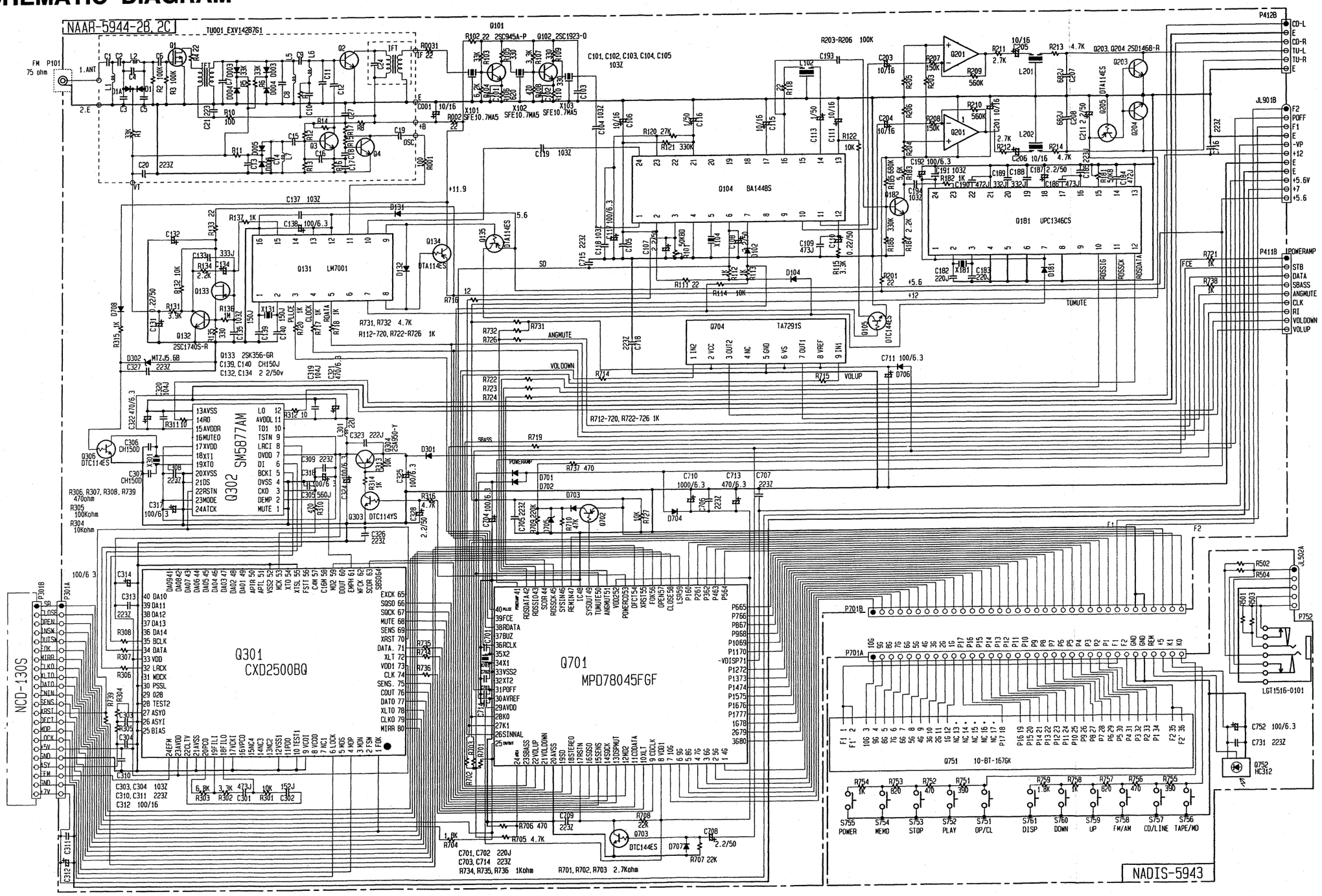


DISPLAY CIRCUIT PC BOARD



TUNER CIRCUIT PC BOARD

SCHEMATIC DIAGRAM



PRINTED CIRCUIT BOARD-PARTS LIST

POWER SUPPLY CIRCUIT PC BOARD (NAPS-5942-2B/2C)

CIRCUIT NO	PART NO.	DESCRIPTION
	ICs	
Q901	222780125NEC	MPC78M12HF
Q903	222780075MIT	M5F78M07L
Q904	222780565JRC	NJM78M56FA
Q905	222951	M51943B
	Transistor	
Q902	2211455	2SA1015-GR
	Diodes	
D901	22380022 or ⚠	RBV402 or
	22380271 ⚠	D3SBA20
D911-D917	22380035, ⚠	GP104003E,
	22380032 or ⚠	1SR139-100 or
	22380260 ⚠	RL1N4003
D918	224452704	MTZ27D
D919,D920	224470512	MTZJ5.1B
	Capacitors	
C902,C903	374721044	0.1 μF±5%,50V,Plastic
C904,C905	354763329	3300 μF,35V,Elect.
C908	393341007	10 μF,16V,Elect.
C911	374721034	0.01 μF±5%,50V,Plastic
C912	354764709	47 μF,35V,Elect.
C913	354743329	3300 μF,16V,Elect.
C915,C917	393341007	10 μF,16V,Elect.
C921	354761019	100 μF,35V,Elect.
C922	354782219	220 μF,50V,Elect.
C925	354781009	10 μF,50V,Elect.
C928	393380107	1 μF,50V,Elect.
	Resistors	
R922	443522704	33 Ω±5%,1/2W,Metal oxide
R901,R926	453530824	8.2 Ω±5%,1/2W,Metal
R911	453534794	0.47 Ω±5%,1/2W,Metal
R912	453630474	4.7 Ω±5%,1W,Metal
R921	453530224	2.2 Ω±5%,1/2W,Metal
	Fuse holders	
F901a	25050065 ⚠	YSH403T
	Fuse	
F901	252083 ⚠	0.4A-SE-EAWK,Fuse <P/T>
F901	252158 ⚠	1.6A-UL/T-237,Fuse <D>
	Plug	
P901a	25055676	NPLG-2P632
	Sockets	
JL503b	25050283	NSCT-6P111
JL901a	25051095	NSCT-11P882
	Radiators	
Q903a	27160145	RAD-51
Q904a	27160315	RAD-95(B)

DISPLAY CIRCUIT PC BOARD (NADIS-5943-2B/2C)

CIRCUIT NO	PART NO.	DESCRIPTION
Q751	212141	10BT-167GK,FL tube
Q752	24130010	HC-312,Remote sensor
C752	355721019	100 μF,6.3V,Elect. Capacitor
S751-S761	25035652	NPS-111-S604,Switch
JL502a	25051089	NSCT-5P876,Socket
P701a	25050897 or	NSCT-35P692 or
	25050941	NSCT-35P728,Socket
P752	25045396	LGT1516-0101,Headphone terminal
Q751a	27190943	Holder FL

SPEAKER TERMINAL PC BOARD (NAETC-5946-2B)

CIRCUIT NO	PART NO.	DESCRIPTION
JL501b	25051088	NSCT-4P875,Socket
JL502b	25055626	NPLG-5P588,Plug
P501	25060086	NTM-4PDML30,Terminal
L501,L502	231176	S-1.3C,Coil
R573,R574	453530564	5.6 Ω±5%,1/2W,Metal resistor

TUNER CIRCUIT PC BOARD (NAAR-5944-2B)

CIRCUIT NO	PART NO.	DESCRIPTION
	Front end	
TU001	240102	FE417-G02
	ICs	
Q104	22240883	BA1448S
Q131	22240090 or	LM7001 or
	22241076	LM7001J
Q181	22240679	MPC1346CS
Q201	22240191W	NJM-4565DD
Q301	22240487A	CXD2500BQ
Q302	22241074R9	SM5877AM
Q701	22241260	MPD78045FGF-073
Q704	22240239	TA7291S
	Photo coupler	
Q305	24120038	GP1F32T
	Transistors	
Q101	2210746	2SC945A-P
Q102	2211723	2SC1923-O
Q105,Q306	221282	DTC144ES
Q132,Q182	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR
Q133	2212445	2SK365-GR
Q134,Q135	2213510 or	DTA114ES or
Q205	2214350	RN2202
Q203,Q204	2212794	2SD1468-R
Q303	221281,	DTC114YS,
	2213570 or	RN1207 or
	2214930	UN4214
Q304	2211504	2SA950-Y
Q702	2212600	DTA124ES
Q703	221282	DTC144ES
	Diodes	
D102,D131	223163,	1SS133,
D104,D132	223205 or	1SS270A or
D181	223222	WG713A
D301,D706	22380035,	GP104003E,
	22380032 or	1SR139-100 or
	22380260	RL1N4003
D302,D705	224470562	MTZJ5.6B
D701-D704	223163,	1SS133,
D707,D708	223205 or	1SS270A or
	223222	WG713A
	Ceramic filters	
X101,X102	3010071	SFE-10.7MA5 RED
	3010071	SFE-10.7MA5 RED
X103	3010130	SFE10.7MZ2K
X104	3010258	CDA10.7MG60H15-A
	Coil	
L301	233454K220	NCH-1452 220K
	Crystals	
X131	3010141 or	XTL-7.2M or
	3010260	HC-49/U03 7.2M
X181	3010203	AF6146CG
X301	3010112	KD6586FFB
X701	3010261	HC-49/U03 4.19M10P
	Coils	
L102	233383	NMC-6070
L201,L202	233355A	NMC-4059
	Capacitors	
C001,C106	393341007	10 μF,16V,Elect.
C107,C108	354780229	2.2 μF,50V,Elect.
C109,C301	374724734	0.047 μF±5%,50V,Plastic
C110,C131	354782299	0.22 μF,50V,Elect.
C111,C201	393341007	10 μF,16V,Elect.
C113	393380107	1 μF,50V,Elect.
C115	354742209	22 μF,16V,Elect.
C116	354780109	1 μF,50V,Elect.
C117,C138	354721019	100 μF,6.3V,Elect.
C132,C134	354780229	2.2 μF,50V,Elect.

CAUTION: Replacement of the transistor of mark ✱, if necessary, must be made from the same beta group (HFE) as the original type.

PREAMPLIFIER CIRCUIT PC BOARD (NAAF-5941-2B/2C)

CIRCUIT NO	PART NO.	DESCRIPTION
	ICs	
Q401	22241072	TC9273N-007
Q431,Q522	22240273	NJM4565S-D
Q521	22241253	TC9184AP
	Transistors	
Q403,Q404	221363 or	RN1241-A or
Q519,Q520	2213632	RN1241-B
Q501-Q504	2211733	2SC1845-E
Q505-Q508	2213284	2SC1740S-R
Q509-Q514	2211455	2SA1015-GR
Q515-Q518	2211255	2SC1815-GR
Q591	2213354	2SA933S-R
Q592	2213284	2SC1740S-R
Q593	2213510	DTA114ES
	Diodes	
D413	223163,	1SS133,
D501-D503	223205 or	1SS270A or
	223222	WG713A
D491,D492	224470823	MTZJ8.2C
	Coils	
L401-L404	231126	NCH-1182
	Capacitors	
C431,C432	393341007	10 μF,16V,Elect.
C433,C434	374721824	1800pF±5%,50V,Plastic
C435,C436	374723924	3900pF±5%,50V,Plastic
C437,C438	374721824	1800pF±5%,50V,Plastic
C439,C440	374723624	3600pF±5%,50V,Plastic
C441,C442	374721824	1800pF±5%,50V,Plastic
C443,C444	374724714	470pF±5%,50V,Plastic
C445,C446	393341007	10 μF,16V,Elect.
C451,C452	393341017	100 μF,16V,Elect.
C491,C492	393343317	330 μF,16V,Elect.
C501,C502	393341007	10 μF,16V,Elect.
C507,C508	393361017	100 μF,35V,Elect.
C511,C512	393322217	220 μF,6.3V,Elect.
C513,C514	374725624	5600pF±5%,50V,Plastic
C515,C516	374723334	0.033 μF±5%,50V,Plastic
C517,C518	374721844	0.18 μF±5%,50V,Plastic
C519,C520	374723334	0.033 μF±5%,50V,Plastic
C521,C522	393380227	2.2 μF,50V,Elect.
C523,C524	393341007	10 μF,16V,Elect.
C525-C528	354781599	0.15 μF,50V,Elect.
C539,C540	393322217	220 μF,6.3V,Elect.
C541,C542	393341007	10 μF,16V,Elect.
C581	354741019	100 μF,16V,Elect.
C582,C583	393380107	1 μF,50V,Elect.
	Resistors	
R425	5104338	N16RQL100KBT25F
R515,R518	443523904	39 Ω±5%,1/2W,Metal oxide
R519,R520	443523304	33 Ω±5%,1/2W,Metal oxide
R521,R522	443523904	39 Ω±5%,1/2W,Metal oxide
R591,R592	443522204	22 Ω±5%,1/2W,Metal oxide
	Terminals	
P401	25045300 or	NPJ-6PDBL159 or
	25045458	NPJ-6PDBL279
P402	25045303 or	NPJ-4PDBL162 or
	25045460	NPJ-4PDBL281
P403	25045504	NPJ-1PDBL319
	Plugs	
JL401b	25055631	NPLG-10P593
P411a	25055705	NPLG-9P661
P412a	25055702	NPLG-6P658

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO	PART NO.	DESCRIPTION
	Capacitors	
C133	374723334	0.033 μF±5%,50V,Plastic
C184,C190	374724724	4700pF±5%,50V,Plastic
C185	374722234	0.022 μF±5%,50V,Plastic
C186	374724734	0.047 μF±5%,50V,Plastic
C187,C211	354780229	2.2 μF,50V,Elect.
C188,C189	374723324	3300pF±5%,50V,Plastic
C192	354721019	100 μF,6.3V,Elect.
C203-C206	393341007	10 μF,16V,Elect.
C207,C208	374726824	6800pF±5%,50V,Plastic
C302	374721524	1800pF±5%,50V,Plastic
C303,C304	374721034	0.01 μF±5%,50V,Plastic
C312	393341017	100 μF,16V,Elect.
C314,C325	393321017	100 μF,6.3V,Elect.
C316-C318	393321017	100 μF,6.3V,Elect.
C319,C320	374721044	0.1 μF±5%,50V,Plastic
C321,C322	393324717	470 μF,6.3V,Elect.
C323	374722224	2200pF±5%,50V,Plastic
C324	393324717	470 μF,6.3V,Elect.
C328,C708	393380227	2.2 μF,50V,Elect.
C704,C711	354721019	100 μF,6.3V,Elect.
C710	354721029	1000 μF,6.3V,Elect.
C713	354724719	470 μF,6.3V,Elect.
	Resistors	
R101,R181	5210265	N06HR50KBC,Trimming
	Plug	
TP181	25055038	NPLG-2P29
JL901b	25055632	NPLG-11P594
	Terminal	
P101	25060231	NTM-1PD153
	Sockets	
P301a	25050962 or	NSCT-22P749 or
	25050854	NSCT-22P649
P411b	25051234	NSCT-9P1024
P412b	25051231	NSCT-6P1021
P701b	25050865 or	NSCT-35P660 or
	25050975	NSCT-35P762
	Shield plate	
TU001a	27150387	(FM)

POWER AMPLIFIER CIRCUIT PC BOARD (NAAF-5945-2B)

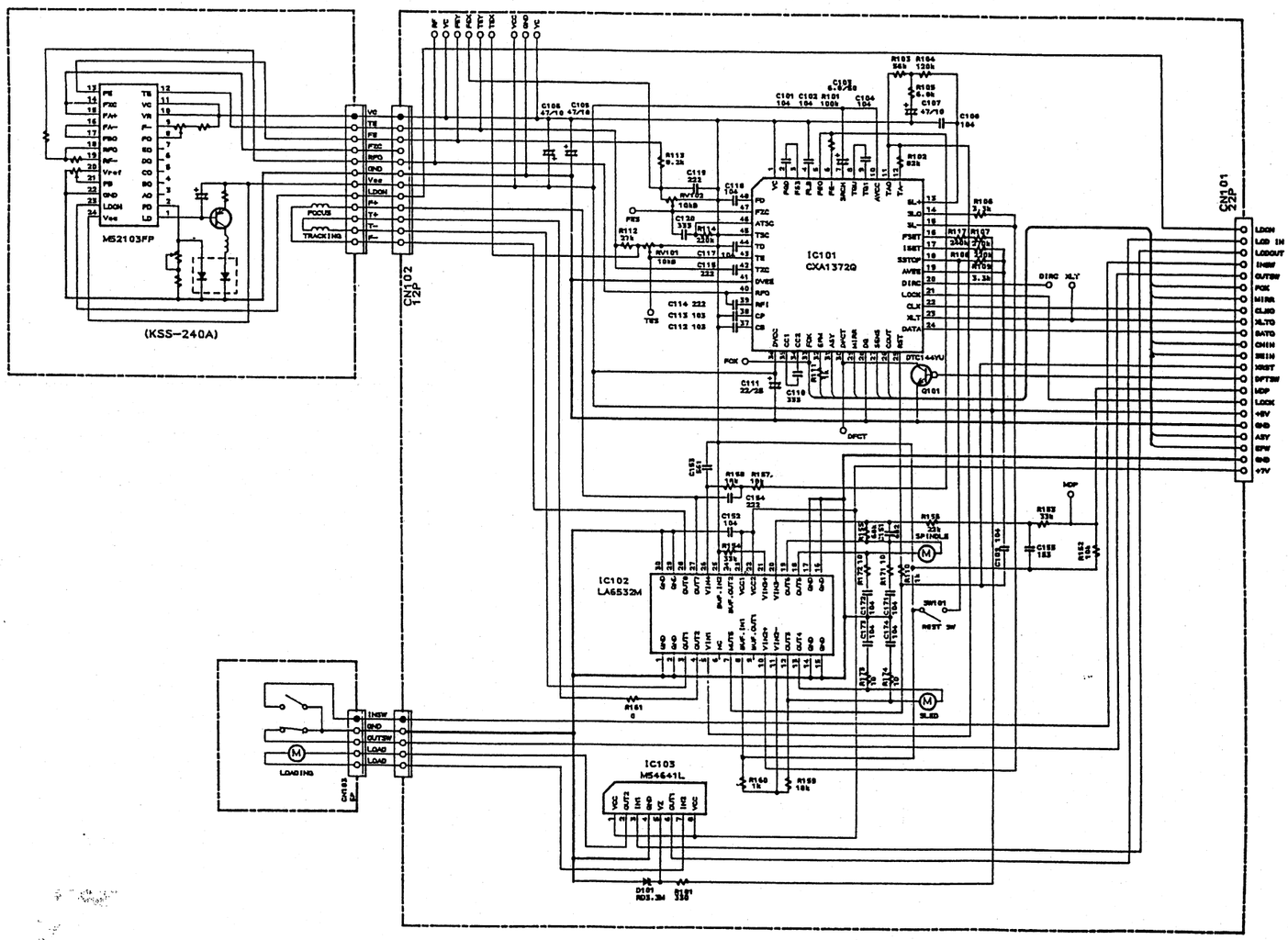
CIRCUIT NO	PART NO.		DESCRIPTION
	Transistors		
Q551,Q552	2213284		2SC1740S-R
	2213284		2SC1740S-R
Q553,Q554	2211654 or		2SC2235-Y or
	2211653		2SC2235-O
Q555,Q556	2211644 or		2SA965-Y or
	2211643		2SA965-O
Q557	2202063,	*	2SC4511-O,
Q558	2202064 or	*	2SC4511-Y or
	2202066	*	2SC4511-P, Transistor
Q559	2202053,	*	2SA1725-O,
Q560	2202054 or	*	2SA1725-Y or
	2202056	*	2SA1725-P,Transistor
	Capacitors		
C553,C554	393341007		10 μF,16V,Elect.
C555,C556	374724734		0.047 μF±5%,50V,Plastic
	Resistors		
R565,R566	443521014		100 Ω±5%,1/2W,Metal oxide
R567,R568	4500027		MPC708-2WK-0.22,Metal plate
R571,R572	453530824		8.2 Ω±5%,1/2W,Metal
	Sockets		
JL401a	25051094		NSCT-10P881
JL501a	25051088		NSCT-4P875

NOTE: <P>: European model only
<T>: Asian model only
<D>: 120V model only

VIDE-V24362 / DRUCK 8

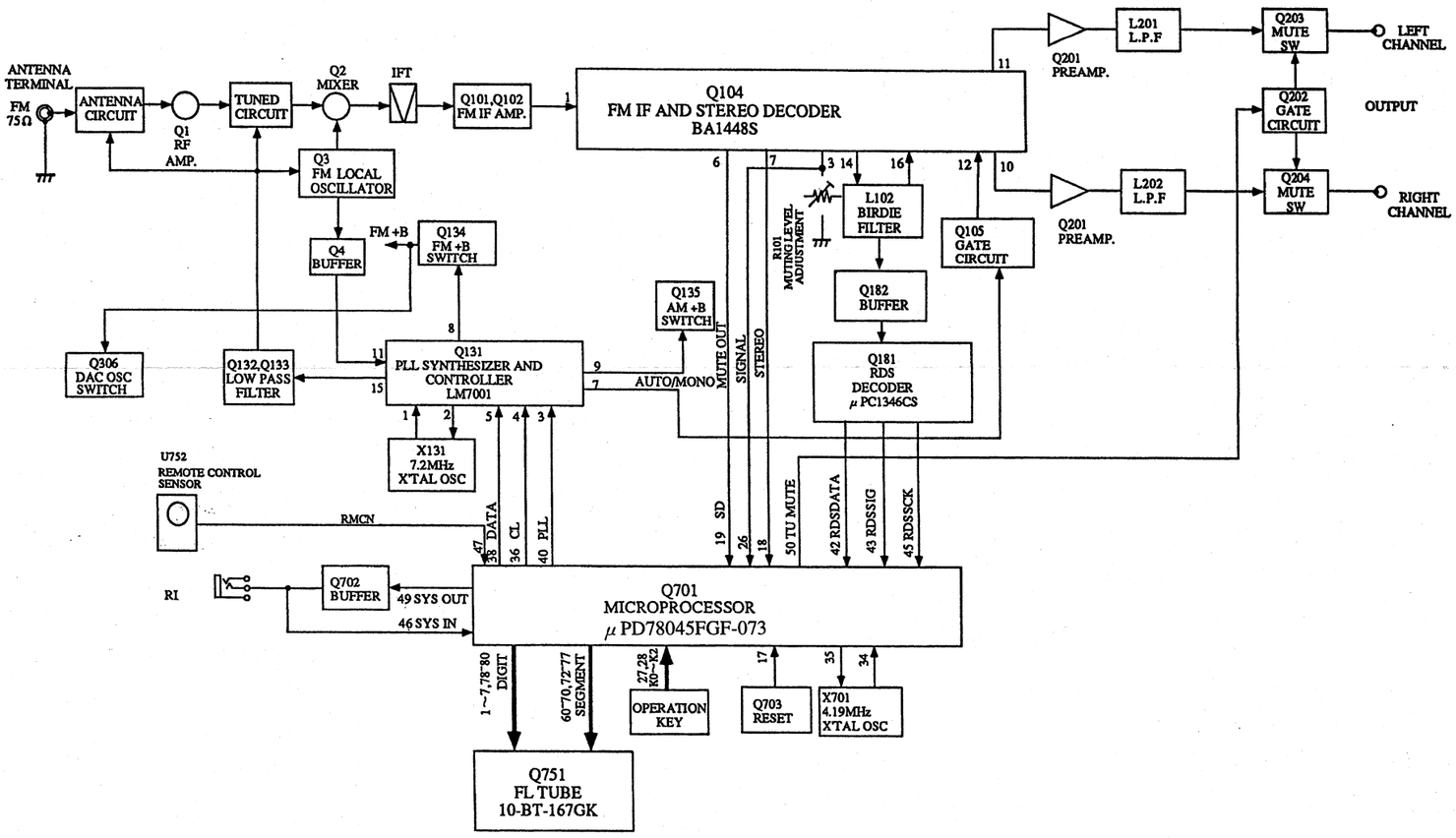
SCHEMATIC DIAGRAM

— CD mechanism section —



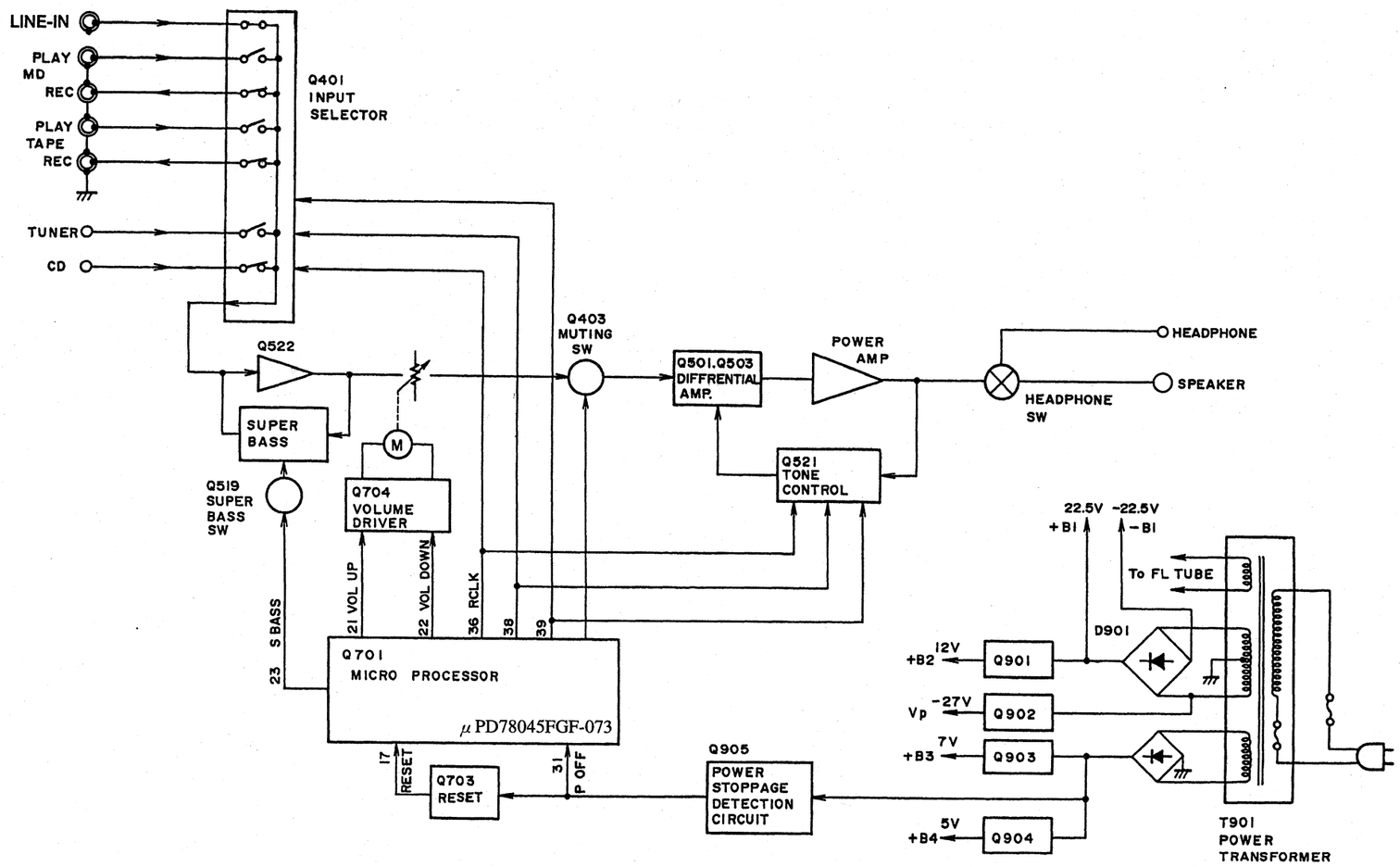
BLOCK DIAGRAM

— Tuner section —

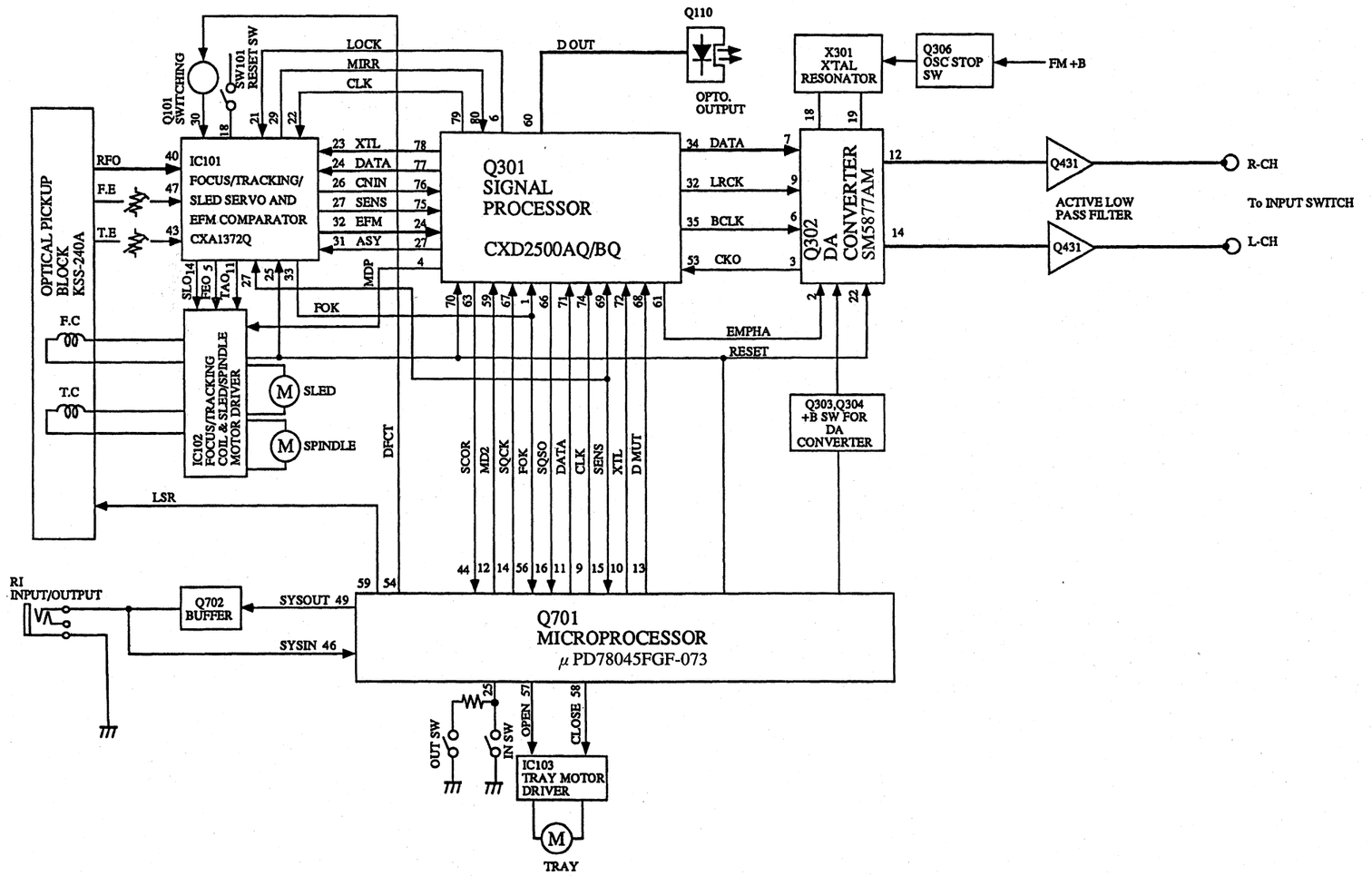


BLOCK DIAGRAM

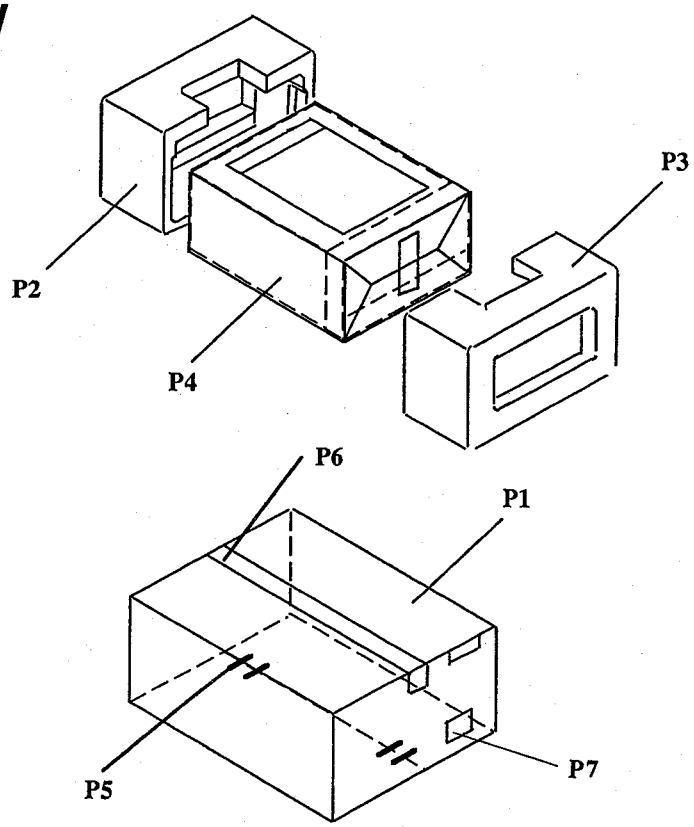
— Amplifier section —



— CD section —



PACKING VIEW



REF.NO.	PART NO.	DESCRIPTION
P1	29053325A	Carton box
P2	29091689B	Pad B
P3	29091688B	Pad F
P4	29100123C	430*550, Styrene bay
P5	282321	Staple
P6	29110071	PP tape
P7	29362337	Label EAN
	Accessary bag	
	29100097-1A	350*250, Styrene bag
	29355133A	Caution sheet DBP <P>
	24140332B	RC-332S, Remote control
	3010054	UM-3,Battery
	292116	FM antenna
	29342612	Instruction manual E
	29342615	Instruction manual FSI <P>
	29342613	Instruction manual T <T/D>
	29342614	Instruction manual GSWD <P>
	25065462	YAE21-0237, FM antenna adapter <T/D>

NOTE: <P>: European model only
<T>:Asian model only
<D>: 120V model only.